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NOVEMBER 1944

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OFT PRESSURE DOES IT



Soft Pressure is the obvious answer to the imperative need for longer engine life and better engine performance.

On the straight walls of rebores and resleeves, just as in badly tapered cylinders, Steel-Vent's soft pressure action stops oilpumping and checks cylinder wear.

You can depend on Hastings Steel-Vent
"motor engineered" sets in every cylinder
condition.

HASTINGS MANUFACTURING COMPANY - HASTINGS, MICHIGAN
Hastings Manufacturing of Canada, Ltd., Toronto



IT'S A PRIVILEGE TO BUY WAR BONDS

SOFT PRESSURE DOES IT-IN REBORES TOO

A taxicab company says: For the past two years we have been using Hastings Steel-Vent sets in our rebored motors. In checking over our records, we find not only have we been able to get more miles of service out of Steel-Vents over conventional rings, but we have also cut cylinder wear.

HASTINGS STEEL-VENT PISTON RINGS

U. S. PAT. 2,148,997

TOUGH ON OIL-PUMPING GENTLE ON CYLINDER WALLS

JUNE IN "EVERYTHING FOR THE BOYS"
STARRING DICK HAYMES
EVERY TUESDAY NIGHT—NBC NETWORK

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WALLS

Stainless steel high tension cable and copper cable.



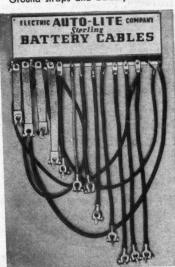
Spark Plug Cable sets in stainless steel and copper.



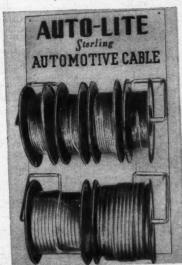
Primary wire in various sizes.



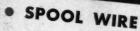
Ground straps and battery cable.



Battery cable assortment.



Spool cable assortment.



- SPARK PLUG WIRES
- BATTERY CABLES
- TERMINALS
- LOOMS
- PORTABLE CORD
- **ASSORTMENTS**

Auto-Lite's wire and cable, famous for its low-cost dependability, is a complete line, built for every automotive use. Dealers can get more detailed information regarding its exclusive features by writing to

THE ELECTRIC AUTO-LITE COMPANY
Merchandising Division TOLEDO 1,

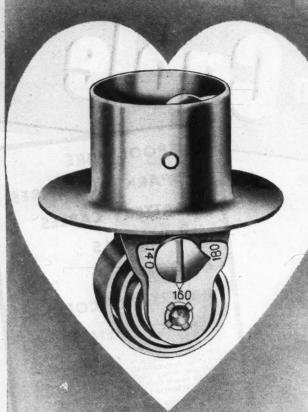


Loom in various sizes.



Combination wiring kit.

To Warm the Hearts of Aging Cars



As part of every motor tune-up-especially today!-REPLACE the cooling system THERMOSTAT. Get better performance-quick warm-up, reduce crankcase dilution, save motor wear, save oil and improve gasoline mileage.

Replacement

RMOSTATS

THE DOLE VALVE 1901-1941 Carroll Avenue Chicago 12, Illinois

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With Which Is Combined AUTOMOBILE TRADE JOURNAL

FOR AUTOMOTIVE SERVICEMEN

Vol. LXIII, No. 12

November, 1944

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Automotive Division

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MOTOR AGE

NOVEMBER 1944



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THE guessers, who had a busy week or two last August when Lawrence, Alfred, Edward, and William Fisher announced their retirement from the General Motors Corp., were called up for another tour of duty early last month when the Fisher brothers filed incorporation papers for two companies in three states. But they had no success at all. The plans of the Fisher brothers still are family secrets.

One of the companies for which papers were filed is known as Fisher Brothers, Inc.; the other as Fisher Motor Car Co. Papers were filed at Lansing, Mich.; Wilmington, Del., and Salem, Ore.

"No significance should be attached to the filing of incorporation papers," said a statement from the offices of the Fisher brothers at Detroit. "Filing of these articles at this time means only that we seek to protect our rights to manufacture under our own name."

At the time of their retirement from General Motors, Lawrence Fisher told questioners that they intended to go into business for themselves. When pressed for details, Lawrence Fisher said: "We have always been in the automobile business."

The name "Fisher Motor Car Co." may mean something, but then, as a noted radio military commentator always says, on the other hand, it may not.

Graham-Paige Promises Advanced Post-War Car

NEW NOTE was injected into speculation about the post-war automobile last month when Joseph W. Frazer, chairman of the board of Graham-Paige Motor Corp., announced that his company would produce a passenger car of advanced design after the war. This was the first occasion on which an automobile executive has indicated in so many words that his company would enter the post-conversion period with anything but a slightly modified 1942 model.

Since Graham-Paige was out of automobile production just before the war, its post-war problem is somewhat different from that of most other companies. Unlike the others, it would have no 1942 patterns and dies to reinstall in its factory.

When demand for repair work taxes a shop's capacity, as it does today, how can a dealer turn out more jobs? One dealer has answered the question by making every mechanic a salesman. Read his story, starting on Page 28.

The public, throughout the history of the automobile industry, has been slow to accept changes in design, yet the Graham-Paige promise of a genuine post-war model is likely to have its effect upon the thinking of other manufacturers. Doubt has existed ever since production stopped in January, 1942, that the first cars to be built after the war would bear too marked a resemblance to the then current models. The WPB's action more than a month ago in easing the ban on experimental work made it seem probable that changes would affect more than paint and sheet metal. Graham-Paige announcement, while having no direct bearing on the plans of other factories, is certain to be kept in mind.

Labor Situation Easier In Truck-Tire Factories

SOME relief for the users of heavy-duty truck tires is forecast in the report made by Manpower Czar McNutt to Economic Stabilizer Byrnes, dealing with the manpower situation in critical industries. During August, the need for additional workers in tire plants shrank from 4900 to 1600, with the result that production jumped 11 per cent over the July total. There is a long way to go before we are out of the woods, but

the figures are evidence at least that somebody is beginning to pay a little attention to a problem that should not have been permitted to arise.

The production of tire cord and fabric, which has been cited in the past as a bottleneck in the tire industry, also showed an improvement as far back as July, according to the McNutt report. An exception—and this is of particular importance to users of heavy-duty tires—was the high-tenacity rayon situation. According to McNutt, the recruitment of additional workers has been slow and output, as a result, has fallen behind expectations.

As with so many bureaucratic reports and statistics, the figures were one and two months old when released, and probably failed to reflect the current situation. However, since improvement was noted as long ago as July and August, we have every right to expect, now that bureaucracy has recognized the seriousness of the situation, that the output of heavy-duty tires will continue to rise.

The fact the OPA has made a half-promise that "A" book holders will get new tires after the first of the year has no bearing on the truck-tire situation but is additional evidence that the over-all tire picture is improving.

Dealers Purchased 2347 Surplus Trucks in Weeks

SURPLUS military property is gradually becoming an important source of automotive vehicles and parts. During August, the last month for which figures are available, Treasury Procurement disposed of \$3,343,000 worth of vehicles and parts, leaving \$8,000,000 worth still on hand.

The importance of this source of supply is shown by the sales of trucks, which have doubled in recent weeks. During the week ended Sept. 30, Treasury Procurement

disposed of 2073 units and the following week it sold 2347. On Oct. 7, there were 10,842 trucks on hand, 6957 of which had been inspected and were ready for immediate purchase. The greatest concentration of surplus trucks was in the Atlanta, Ga., region, with good supplies reported at Washington, D. C.; Fort Worth, Tex.; Seattle, Wash., and San Francisco, Cal. Smaller quantities were available at Boston, Mass.; New York, N. Y.; Cincinnati, Ohio; Chicago, Ill.; Kansas City, Mo., and Denver, Col.

Though, compared with pre-war production, the quantities are small, alert dealers will follow developments in the surplus-property field, since the number of vehicles to be made available should expand rapidly.

Plane Engines Use Water To Boost Horsepower

BECAUSE fuel-injection is one of the innovations frequently predicted for post-war passenger cars, the expedient used to increase temporarily the horsepower of the 2,000 hp. Pratt and Whitney engines built by the Ford Motor Co. for P-47 Thunderbolt fighter planes is of unusual interest. The stunt, described publicly for the first time last month, consists of injecting water into the cylinders of the radial engine along with the high-test gasoline.

Fighter pilots frequently find themselves in a spot during a combat and can extricate themselves only by a short extra burst of speed. This is made possible on the Thunderbolt by a water regulator, attached to the engine crankcase, and a derichment valve, attached to the carburetor.

By leaning out the fuel mixture, the special valve permits the engine to operate at a higher degree of efficiency, and so deliver greater horsepower. However, such operation produces excess heat because there is less fuel introduced into the cylinders. To reduce this tendency to overheat, a jet of water is introduced into the gas line. At high altitudes, a mixture of 90 per cent alcohol and 10 per cent water is used instead of water alone. Water injection can be used only on engines that employ spinners for vaporizing the fuel.

Water in the fuel line usually has been a hindrance instead of a help in passenger-car engines, although its use was suggested years ago as a means of increasing power. That suggestion, based on misconceptions, has now become a fact, at least in plane engines.

Shop Operators Discover That OPA Word Is Law

F all the agencies created at Washington since war began, the Office of Price Administration is the one most generally damned. The reason is clear; OPA regulations bear intimately on the lives of every civilian in the country.

Every American, believing that we are fighting today to extend democracy and personal freedom, will insist that all restrictive measures, felt to be necessary in wartime, be dropped as soon as the war ends.

In the meanwhile, however, it is well to remember that the word of the OPA, however much an individual may dislike it, is the law. Its regulations have the full backing of the nation's police power and courts, and their infraction invites punishment by fine or imprisonment.

Recently, 101 repair-shop operators in Philadelphia learned these facts the hard way. They were cited by the Price and Rents Division of the local OPA for alleged violating of schedules covering the automotive repair industry. Later 18 of them entered consent decrees in federal court.

None of the operators, it was



ed into harged, had filed a list of his 1942 ase prices, as required. Complince does not mean that service must necessarily still be sold at he base price, since the OPA subequently permitted certain shops pass along increased parts and abor prices.

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Smart operators will take the rouble to find out exactly what OPA price regulations do require.

Huge Registration Gain After War Optimistic

DLANNING can be overdone.

This is not to be taken as a disparagement of careful study and of preparations to meet expected conditions but only as a warning against the unchecked optimism that permeates so many current estimates of post-war markets. A ase in point is a prophesy, now gaining wide currency, that the post-war era should see 50 to 60 million cars and trucks on the

Such a development, which would represent a market almost twice as big as the one that existed before the war, would mean a tremendous stepping up not only of manufacturer but also of retail and wholesale new and used-car sales, of parts jobbing, and of service business. For this reason, it might seem attractive on first glance.

Practically, there would be many obstacles to putting such a vast fleet of automotive vehicles upon the highways and city streets of the nation, particularly in the older, congested cities of the East. Whether the purchasing power of the country would be equal to supporting the purchase and operation of twice as many cars as in the best pre-war year is debatable.

Anybody in the automotive business who seriously considers expansion based on rosy expectations of a 60,000,000-car market is overplanning. Even if factories produce new cars at the rate of 5,000,-000 a year for the first five years after the war, the net increase in registrations would fall far short of doubling the pre-war total. Scrappage, comparatively speaking, has been at a standstill during the war and will increase sharply as soon as new cars are available. Even if scrappage is no greater than the 2,000,000 a year rate that was average before the war, 10,000,-000 cars would have to be subtracted from the production figures for the first five years.

Registration of automobiles undoubtedly will increase after the war, if only because population figures will be higher. But, if the past is any guide to the future, that increase will be gradual and orderly.

OPA Changes Its Mind On Chevrolet Ceilings

NE of the most discouraging things about government by bureaus is its absolute infallibility. Bureaus never make mistakes and, when they do anything that looks suspiciously like a mistake to an ordinary citizen, they blithely ignore it. A case in point is the recent announcement by the OPA that the ceiling on used 1937-to-1941 Chevrolet passenger cars has been lifted approximately 3 per

Car dealers were quick to point out when MPR 540 was promulgated that the Chevrolet ceilings were far below the current market price. The OPA replied that the ceilings were based not on market prices but on book values, implying that the maximums set for Chevrolets represented the latter. But, in

With winter coming on, you'll get muchneeded help from the generator-repair chart on Pages 22-23. You'll be interested, too, in the new picture section and the new cartoon feature. The pictures begin on Page 33, while the cartoons will be found on Pages 38-39. announcement that the ceilings had been upped, does the OPA admit that anything was amiss with the original maximums? No. "The adjusted Chevrolet prices will more nearly reflect their January, 1944. guide book prices," it explains.

The concession on Chevrolet prices will not entirely satisfy legitimate automobile dealers, who are finding it increasingly difficult to buy used cars. With their own stocks vanishing, they have to stand by and watch the irresponsible, get - rich - quick speculators thriving. The legitimate dealers are not alone in their complaint. In states having sales taxes, officials are complaining that here-today-and-gone-tomorrow boys are not lingering long enough to pay taxes.

If this is a state of affairs the OPA wishes to impose upon the country, it will do nothing about MPR 540. If it is not, the OPA will listen more sympathetically to the complaints of legitimate dealers.

Knowledge of Costs Vital To Shop in Post-War Era

DRACTICALLY every man in business today, including the operators of automobile repair shops, assumes that, as soon as the war ends, controls exercised by the government over production, prices, and manpower will be revoked. They ought to be, and it is reasonable to expect that the demands of the American people for economic liberty will be met. However, repairmen still will be subject to control, even though that control is not expressed in Presidential executive order.

The post-war master of every business enterprise will be competition. The competitive situation will set prices and wage rates and, in general, regulate the conduct of the business. The repairman who

(Continued on page 52)



ng Prosperity for the ost-War Shop

To compete successfully for a share of the peacetime service market, a shop will employ the tested volume builders described in this article

steady flow of customers to your shop. In general, these steps come under the general heading of advertising and selling.

Of the many forms of advertising, there are four which are in t's why general use by automotive repair shops these four are:

1. Direct mail.

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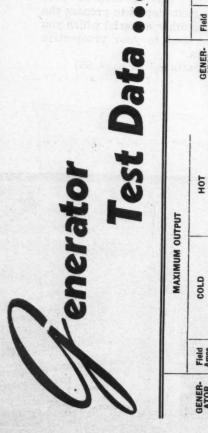
- 2. Newspapers.
- 3. Road signs.
- 4. Telephone directory.

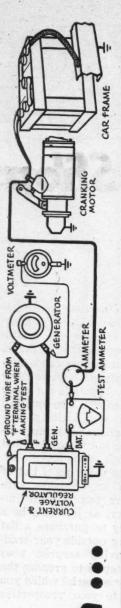
Of these various methods of advertising, direct mail is considered as being among the best and it is used extensively by the more successful maintenance establishments.

In order to bring in business by direct-mail advertising, it is absolutely essential that you have a good mailing list. Of course, the basis of such a list is always those car owners with whom you have done business in the past. However, in order to increase your business, you must have a large number of additional car owners whose business you would like to have. Lists of such car owners can be obtained from companies specializing in mailing lists. If you do not know of any companies who have mailing lists for sale in your vicinity, consult your telephone classified directory and you will invariably find a number of such companies listed. Obviously, when selecting a list of that sort, you should make sure that the owners live in your immediate vicinity, as it would be a waste of money to purchase a list of owners living outside your trading area. Having secured your list, the next step is to prepare the letter and other material which you wish to send to your prospective customers.

(Continued on page 56)







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NOVEMBER, 1944

In the 35th article of a series, Pop O'Neill tells his young helper how to lick a frequent transmission ailment



OP O'NEILL was not in the best of humor. He had sat up until 2 o'clock the night before, trying to disentangle some of his rationing problems. He had not only found his ration check book 40 gal. short but had also discovered, when he checked over the previous day's receipts, that some chiseler had slipped him three counterfeit gas coupons. Then, to add to his woes, he couldn't find the replenishment portions of rationing certificates for two tires he had sold.

When he finally fell asleep, he dreamed that he had somehow changed places with St. Peter and would not admit anyone unless he could show an "A" coupon, and it just happened that the OPA officials who applied had only "H" coupons. Pop had never known of an "H" coupon before, but it seemed only natural that the OPA officials should have them. Pop was smiling when he woke up, but his mood soured as soon as he thought of the previous night's work, and he was still grouchy when he reached the shop.

Caleb Spender, the cashier at the Glenrock National Bank, had no way of knowing about Pop's troubled night, and chose that morning to come in with his car, which, because of Spender's aversion to spending money, looked far older than its five years.

"You've got to do something about that blamed automobile of mine." he said to Pop, who sat

frowning at the desk in the shop

"What seems to be the matter?" asked Pop. "Need a wash and polish?"

"None of your sarcasm," snapped Spender. "I have my car washed when I think it needs it. This is something serious. Every time I cross the Central Railroad tracks, it jumps out of gear."

"I guess we can take care of it. I suppose you'd want to have your car back before noon?"

"Of course I would. I'm a busy man."

"Make it noon the day after tomorrow."

"Two days to do a little job like that! I'll go to another shop."

Pop smiled.

"What are you grinning about, anyhow?" demanded Spender.

"You've been to the other shops already," said Pop. "And they all told you to come around next week."

"How do you know what I do?"

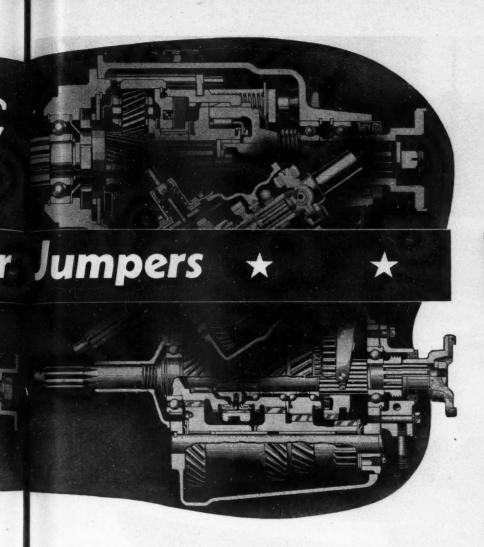
"In a town like this," said Pop, "nobody's got many secrets. But I don't care. Caleb. You always wind up here after your shoppin' trips. See you day after tomorrow."

Spender growled a little under his breath, muttered, "All right," and left. After filing some bills by brushing them into an open desk drawer, Pop went out into the shop and sought Tommy Winters, whom he found pulling the wheels of a panel-delivery truck, preparatory to doing a brake job.

"When you get time," said Pop, "you better get on that jalopy of Caleb Spender's."

"What's wrong with it?"

"Keeps jumpin' outa high gear." Tommy stood up. "That means we'll have to disassemble the transmission, doesn't it?" he asked.





"Why do you think that's necessary?"

"Well," said Tommy, scratching his chin, "I figured the trouble would be in the gears."

"Maybe it is. But I knew a fellow once that always had a headache. The medicos examined his eyes, took out his tonsils, and made him get his teeth pulled. Then they found out that his hat was too small for him, and when he got a new one his headache was cured. That's the way I feel about this car of Caleb's. There's no use takin' it down if we don't have to."

"You can't examine the gears any other way," said Tommy.

"Let's look at the remote-control linkage."

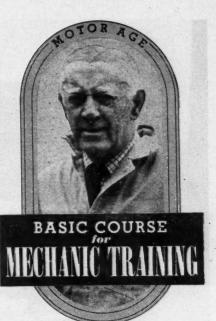
"I don't see-" Tommy began.

"The linkage may be out of adjustment," said Pop. "If it is, that can keep the gears from meshin' deep enough. The result is, the

gears slip outa mesh or get jarred out when the car hits a rough spot, like Caleb's does when he crosses the railroad tracks. And, incidentally," added Pop, "poor adjustment on the linkage can also make a transmission stick in gear."

"Suppose we don't find the trouble in the linkage."

"Then, on this particular car, it would be in the gear box. But, if it was a Chrysler or a Chevrolet or one of them cars that has a vacuum shift, we could take a gander at the vacuum unit. Sometimes a leak will develop in the vacuum-inlet line, or a connection will get worn. When it does, the vacuum in the cylinder is destroyed and the piston returns to the neutral position. In other words, the gear is pulled outa mesh. Besides a leak, you sometimes find that the shiftin'



linkage is bindin' for lack of lubrication. You don't run into trouble with the vacuum cylinder very often, but it's somethin' to keep in mind when you get a case of jumpin' outa gear that you can't find any reason for right off."

Tommy nodded toward the dash on the truck on which he had been working. "Suppose the trouble was in the gears," he said. "What would I look for?"

"Well, in this case," said Pop, "it only jumps outa high gear. Outside of the linkage, there could be four or five other causes. One might be misalignment of the transmission with the engine assembly. You don't have to disassemble the transmission to tell if that's the cause. Once you get the gears out of the case, you can look for worn or tapered pinion-gear teeth or clutch-sleeve gear teeth. If you still can't find the trouble, then examine the detent."

"Detent?" echoed Tommy.

"I keep forgettin'," said Pop.
"Since the war started, I broke in
so many new men I can't remember who it was I told what. You
ain't done no transmission work
since you came here, have you?"

Tommy shook his head.

"Well," said Pop, "the detent I'm talkin' about is the one that holds the shiftin' forks in position after you shift gears. It consists of a spring and a ball that fits into a notch in the shift lever. When everything is okay, the detent holds

(Continued on page 106)



ITH the approach of lower temperatures, the car cooling system must be conditioned for the addition of antifreeze. This operation must be more carefully done than in the past, since the cars are another year older and the ravages of corrosion in the cooling system are further advanced.

This is particularly true of radiator cores, since the metals used in their construction are more easily attacked by corrosion than other parts of the cooling system. The core should be tested for leaks, water flow, and clogged air passages. Small, minor leaks in the tanks or the core should be re-

By BOB TURNER

paired and, if the core shows definite signs of porosity, it should be replaced.

The rate of water flow through the core should be checked and if it shows any signs of being clogged, it should be cleaned. This may be done by using a cleaning compound or by reverse flushing when the core is only partially clogged. If heavy rust deposits are present in the top of the core and cannot be removed by either of the above methods, it will be necessary to remove the top tank and clean the water passages by means of a very thin metal strip. After the deposits have been loosened by use of the steel strip, the passages may then be blown out with a cleaning solution injected through the bottom tank under pressure. Each of the passages should show a stream of water the same height above the top of the core, with the water under pressure.

The air passages through the core should be blown out with air pressure to remove dirt and insects that become lodged in these passages. In some cases, it may be

the Car Ready for





By following the suggestions given in this timely article, you can put a cooling system into the condition demanded for full winter protection

necessary to remove these with a fine wire. When this method is used, great care must be exercised so that the core itself will not be damaged.

It should be determined if rust and scale deposits have built up in the water passages in the cylinder block and cylinder head. If this condition exists, these deposits should be removed. There are a number of cleaning solutions and methods for removing these deposits on the market and their use will simplify this operation. If the block has a water-distributing tube, this should be removed and inspected. If corroded, it should be replaced to insure proper cooling

and elimination of hot spots which might cause loss of the anti-freeze in the system.

The water pump should be examined for both water and air leaks as well as condition of the bearings. Water leaks are generally easily found, since they are visible. Air leaks may be determined by the appearance of bubbles in the water at the filler neck when the engine is running. If these bubbles are present, it becomes a process of elimination to determine if the air is entering at the pump, the radiator hose, or whether they might be from a compression leak at the cylinder head gasket.

The hose should be removed and

examined for rotting and porosity of the inside surface. If the hose shows any sign of these conditions, it should be replaced. When replacing the hose, make sure the hose clamps have not been stretched to the point where they will not hold the hose tight enough to prevent air being drawn into the cooling system.

A compression leak is not generally noticeable in the form of bubbles with the engine idling. If the bubbles still appear the air is probably being drawn in at the pump and it should be overhauled. Compression leaking in the cooling system can be detected by running the engine, slipping the clutch with the car in high gear and the brakes applied. Under this load, bubbles will appear in the filler neck of the radiator or with the radiator cap in place a hose may be attached to the overflow pipe and the hose immersed in a jar of water. If there is a compression leak, a stream of bubbles will emerge from the end of the hose through the water.

If the car is equipped with a heater, the core should be cleaned and the hoses also checked for both air and water leaks.

Any air leaking into the system will cause foaming and a consequent loss of liquid from the cooling system.

After the above points have been checked and any troubles remedied, anti-freeze may be added to the cooling system to provide protection to the temperature selected with a reasonable assurance that the system will be adequately protected, with only periodic checking with a hydrometer.

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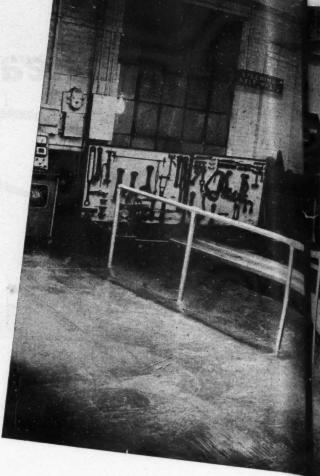
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AGE



Discussing a problem of vital importance particularly to dealers, this article is only one of many in this issue of MOTOR AGE that make profitable reading for the car dealer and the men in his shop. All the articles in this and every other issue of MOTOR AGE offer helpful information on management, service, official regulations, and current developments pertaining to the automotive retail field.

Star Rôles for DEALER



Mechanics

ECHANICS are businessmen, not cogs in a machine, and service is a big business with Capitol Chevrolet Co., Nashville, Tenn. These men have their names emblazoned on their places of work, they work on a flatrate-plus-commission basis, which rewards individual initiative. Each mechanic has a helper, half of whose salary is paid by the company.

Under this plan, a mechanic cannot help making money; that is, if he is worth his salt. Furthermore, the plan has enabled the company to hold its men and turn out a remarkable volume of work. In fact, the shop has been cited by the Stressing the training and skill of its men and encouraging customers to deal with them personally, this shop has doubled service business in year

Chevrolet Motor Division as one of the top-flight service setups in the whole South.

A few figures will show how the company woke up at a time when some dealers were closing up or else curtailing operations on account of the shortage of mechanics, and went on a 24-hours-a-day schedule. According to W. H. Gourley, partner with C. N. Rolfe, Jr., in the operation of the business, it more than doubled its service business in the last 12 months. Shop



volume now runs more than \$15,000 a month. The parts and accessory department has tripled its volume which now runs close to \$20,000 monthly and the paint and body shop rings up around \$5,000.

By GEORGE H. WATSON

It is true the company had plenty of ready-made customers to serve. It sold 3,356 new and used cars, including 1,511 new ones, in 1941. Much of the service business on these cars has come to the shop on account of its facilities and its reputation for getting the job done and done right. It had a good nucleus for an expanded service set-up, since 75 per cent of its experienced men were not subject to the draft. It also had a salaried

service superintendent, a service manager, and a paint and body superintendent, each of whom had been with the company more than 10 years. Other men were added, as needed, by advertising for them, offering them an opportunity to earn \$80 to \$100 per week, and also by enlisting them through the efforts of mechanics already employed. The third method was found a mighty good one.

The concern's volume of production has really been built around the mechanic, who is the "unit of production," with the service manager as the "superintendent of production." The mechanic's name on

(Continued on page 50)



View of the shop is shown at top. The name of each mechanic is placed above his tool cabinet. Other views, top to bottom, show exterior of the firm's building, lube corner, and part of accessories display.

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Shop May Employ Vets Without USES Referral

The War Manpower Commission has removed all manpower controls for veterans of the present war. WMC Chairman Paul V. McNutt said the action was taken to speed the re-employment of returning veterans. Approximately 1,500,000 veterans, already discharged, will be affected by the order, as well as the 50,000 to 60,000 that are being discharged monthly.

The relaxation of controls will make it considerably easier for prospective employers to hire veterans. Under the order veterans of the present war are not required to obtain or present statements of availability to change jobs. Veterans also may be hired by any employer without referral by USES or other authorized referral channels. However, any vet-

erans of the present war who seek employment through USES will be entitled to a referral, as a matter of right, to any job of his choice, with regard to the essentiality or priority status of such job.

Veterans of the present war may be hired without regard to employment ceilings. However, all employes who are veterans of this war will be counted against an established employment ceiling unless the applicable local employment stabilization program provides for the exemption of veterans from employment ceiling determinations. No workers other than veterans of the present war and any other groups that may be exempted

locally may be hired if employment is at or above the established ceiling.

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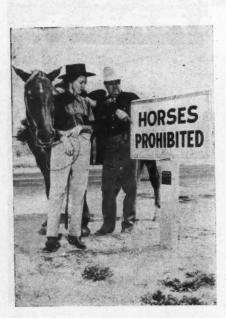
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The order applies to veterans who have served in the armed forces subsequent to Dec. 7, 1941, both male and female, and have other than dishonorable discharges. Local offices of USES will continue to give all possible placement and counsel assistance to returning war veterans, and although such veterans may be referred without regard to priority referral, local USES offices will continue to offer referral and priority and other essential openings to veterans.

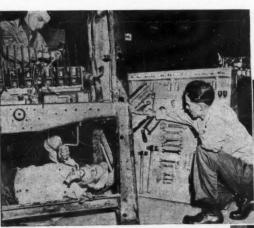
Ahrens Hints Improved Cadillac After War

Many loose automobile selling practices which have crept into the industry over a period of years have been

HANDIE TALKIE. That's the name of two-way radio used in Douglas Aircraft Chicago plant when fire burned phone lines. It could be used by shop tow car.



MILD WEST. No, that is not a typographical error. The West is not so wild when, as shown here, the deputy sheriff of Carson City, Nev., turns back a cowgirl because horse's hoofs might mar city streets.



GI ATTACK. These wounded veterans, returned from overseas to Camp Carson, Colo., hospital, attack objective of learning the names and function of motor parts to fit them for future Army or civilian jobs.



· SERVICE

eliminated during the war and will remain out to the advantage of both the business and the customer, according to D. E. Ahrens, general sales manager of Cadillac Motor Division of General Motors Corp.

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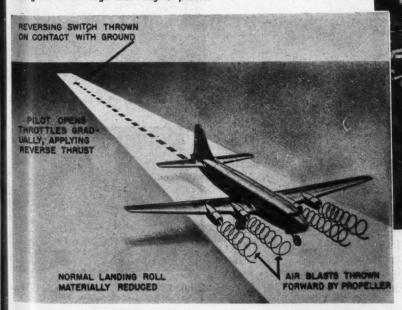
Addressing a meeting of the division's distribution organization in Detroit recently, he said that automotive salesmanship in the immediate post-war period, when demand will exceed supply, will require a high order of tact and ingenuity and that more stable compensation policies will attract to the industry the highest caliber of salesman. Distributors and dealers who handled more than 97 per cent of Cadillac volume in 1941 still are in business and are sounder financially and better managed than they were in pre-war days, he said. He also stated that:

(Continued on page 62)

PROP BRAKES. Artist's sketch shows principle of aerodynamic braking. Pitch of propeller blades is reversed on landing, reducing both the landing speed and the taxing time of large multi-engine planes.

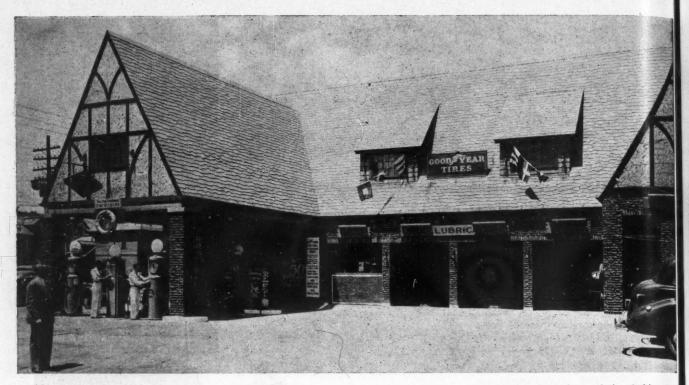


PLANNED ACCIDENT. The junk car, shown suspended 41½ feet above floor in top view, was selected by the National Safety Council as an automotive guinea pig in an unusual safety demonstration. Dropped from that height, car suffered same damage as it would in a collision at 35 m.p.h. Damage is shown in lower view of the car.





JAP STICKERS. Daniel Boone, seventh in line of descent from the famous Indian fighter and trail maker turns out needlesharp knives for GI's in his smithy at Burnsville, Ky. The knives bring him \$10 apiece.



Golden Rule JUPER SERVICE

Illinois judge brings new and highly successful slant to operation of big one-stop service shop

By HARRY L. SPOONER

N 1931, W. C. Radliff, judge of the Circuit Court, Bloomington, Ill., took over a service station at Washington and Prairie streets in that city. This concern had an attractive, almost new building. It had been called a super-service station, but its services had been limited to gas and oil sales, washing, lubrication, and battery and tire service.

Judge Radliff renamed the station "Golden Rule Auto Service, Inc.," and at once set out to make the name mean something to motorists. In other words, all the activities of the station were centered around serving the public as the owners themselves would like to be served.

This policy worked fine and business increased. But Judge Radliff was not satisfied with the limitation of services. He saw great potentialities in making the station a real one-stop station. Therefore, two years later a complete mechanical department was added. Here is done all kinds of motor repairs and

(Continued on page 64)

Attractive street front of the Golden Rule Auto Service, Bloomington, III., showing the convenient entrances to four service bays.



This wing of the station is used in normal time to display ranges and refrigerators.



Wheel balancing, a job in constant demand



Judge Radliff in his office at court house



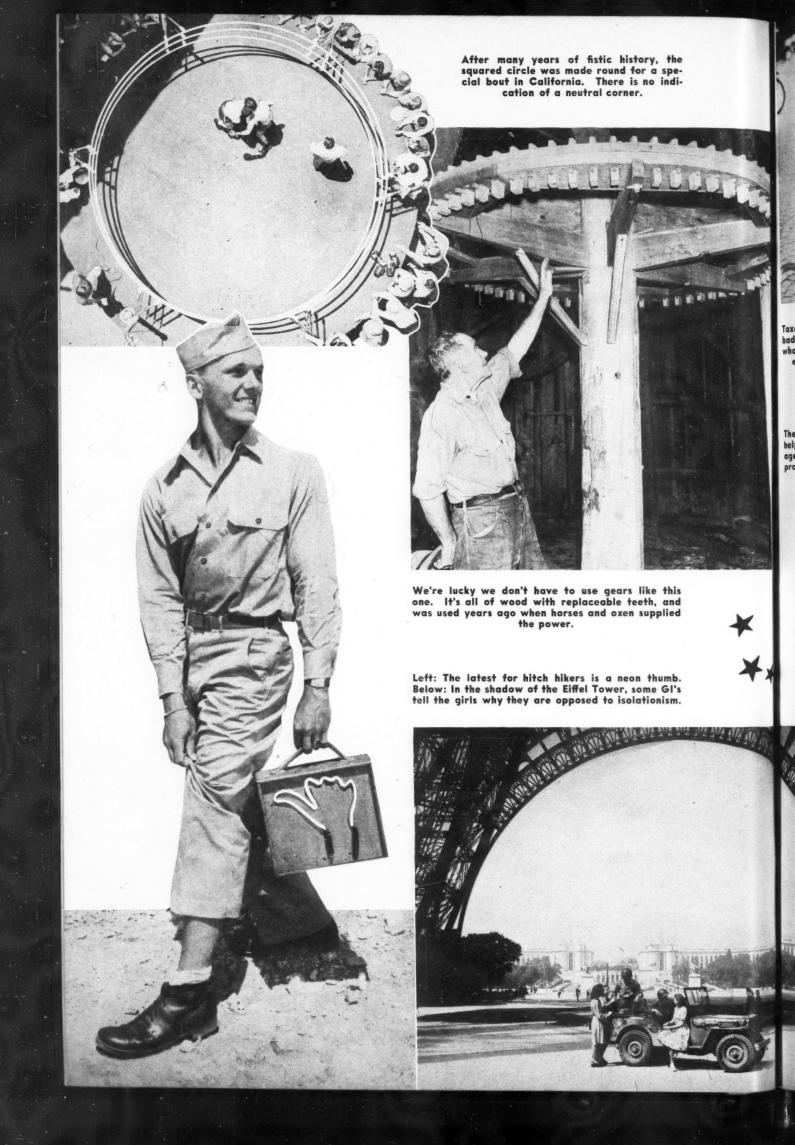


With the sharp turns, the precipice on the side, and the possibility of hidden snipers and buried booby traps, our soldiers can't spend much time admiring the Alpine scenery.

Convalescing should be not only rapid and painless, but quite enjoyable under these conditions. Here, Frank Abraham, wounded at Anzio, is getting some special attention from American Bathing Beauties.



rt house







Picking the Right Compressor

A unit with capacity adequate to a shop's needs, located in proper spot, assures long life

SELECTING an air compressor should not be a difficult job, but, unfortunately, a lot of mystery has been associated with the capacity or size of a compressor, with the result that many repairmen either choose a compressor by guess and by price or purchase the compressor offered by the first jobber salesman who happens to remember that his firm has a line of compressors which he is supposed to sell.

Many compressors have been worked overtime during the past few years and, in addition, are suffering from wartime neglect, with the result thousands of shops will soon find it necessary to buy new units. Before ordering a new compressor, it is important to know what qualities are found in a good compressor, what are the air requirements of the shop, and the maximum pressure required also should be determined. There are also many other factors that must be considered in the purchase of a new compressor.

One of the most important factors to be considered and one that is frequently misunderstood is the rating of the compressor in cubic feet per minute displacement. This rating is a theoretical figure and is obtained by multiplying the area of the cylinder of the machine by the stroke and then by the speed. That is the amount of air you would get if the machine could be operated at 100 per cent efficiency, which is of course impossible. The efficiency of the machine depends on many factors, such as means for eliminating friction which produces heat, provision for cooling the compressed air in its various stages, size of the valves and the tubing by which the compressed air is carried to the storage tank, speed at which the moving parts operate, and power required for the amount of air produced.

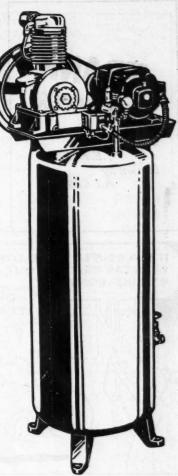
The method employed to cool the compressor as well as the compressed air going to the storage tank should be given very careful consideration when purchasing a compressor. The cooler the air that is delivered under pressure to the storage tank, the less power required to operate the compressor. This one item alone is a big factor in the cost of operation of the unit and the length of life of the machine.

In this connection, the location of the unit in the building has a decided effect on its efficiency. If the unit is placed near a wall or corner, where it does not get a free and complete circulation of cool air, the compressor will tend to heat, thus reducing the air-producing capacity. For the same reason, the unit should never be placed near radiation used for heating the building. Locations near the roof of a building are generally bad, especially in warm weather, because hot air rises and it is, therefore, warmer close to the ceiling than it is on the floor.

Most compressors used in the automotive field are designed to operate at pressures from approximately 140 to 175 lb. As the operating pressure of a compressor decreases, the efficiency increases. In other words, if the compressor operating at 175 lb. delivers a certain number of cubic feet of usable

air, the same compressor operating at 140 lb. will deliver an increased number of cubic feet of air. The maximum pressure required to operate the equipment in the shop should be determined and a compressor of suitable operating pressure and volume should be installed. By following this method, maximum life of the equipment and minimum operating costs will be maintained.

It should be emphasized that many shop owners do not check the condition of a compressor frequently enough. Unconsciously, they assume that, since there is air in the tank, the compressor is operating satisfactorily when actually the unit may be operating continuously in order to maintain pressure. Naturally, under such conditions, operating costs would be extremely high. It is not unusual to find compressors on which the efficiency has dropped to such a point that a new unit could be purchased with the money saved in electrical current. Shop owners should, therefore, check the condition of their equipment frequently and then either recondition or purchase new compressors as required.



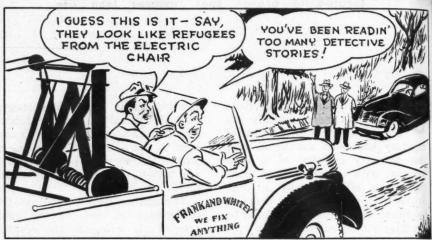
FRANK THE FIXER

Story by J.E.FORD Drawn by A.L.CASSEL



















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BUTCH . .

THE LITTLE OLD LADY WHO OWNED THIS CAR ONLY DROVE IT ON SUNDAYS. NOTICE THE MILEAGE!



LOOKS LIKE THE BOSS HAS FOUND A SUCKER FOR THAT OLD CRATE OF HIS

BUTCH, MR. SMITH IS GOING TO BUY THE CAR. CLEAN UP THE UPHOLSTRY FOR HIM... HOW DID IT EVER GET SO GREASY?





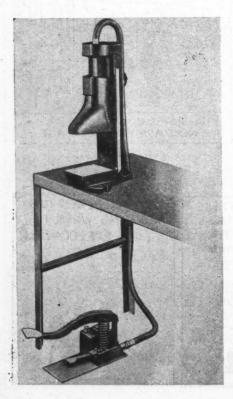
AGE



PARTS TOOLS EQUIPMENT ACCESSORIES

Precision Bench Press

Combining the features of the "V" way vise and gap-style press manufactured by Reimuller Brothers Co., 9400 Belmont Ave., Franklin Park,



Ill., is a new precision bench press of semi-steel construction.

Incorporating "V" ways to eliminate the use of die shoes, the new press is designed for a more speedy and efficient handling of many production jobs. It is made in one size-5 ton, and has a 5 by 6 in. platen with 7 in. of ram movement.

Only two levers are used in the hydraulic foot control, one to apply pressure up to the rated tonnage, the other for release which has a two speed return. No outside airlines or power is needed and unit is self air eliminating. Operator's hands are

free when operating.

The new press is readily portable when mounted on a portable stand. The same machine is adaptable with proper equipment to be used as a tensile and compression testing unit up to 5 tons and as a pipe vise to handle up to 6 in. pipe, or as a shear for ¼ in. plate or ½ in. rounds. Further uses to which the unit can be adapted are marking, notching, riveting, crimping, mounting samples, etc.

Full descriptive literature and prices may be had by addressing the manufacturer.

Brake Block

A tremendous post-war market is seen for the "1492" brake block by The Raybestos Div. of Raybestos-Manhattan, Inc., Bridgeport, Conn.



The lining was developed when the Army Air Forces called for a lining capable of stopping its heaviest bombers.

Called "1492" because it was a great discovery and development, this brake block is manufactured by a unique patented process which results in a product of unusual structure with a very high density, exceptional wear, temperature resistance, and stability.

"1492" is being produced at the rate of 15 tons a day and should shortly be available for civilian use. Meanwhile Raybestos offers samples of "1492" specially engineered to customer's post-war friction require-

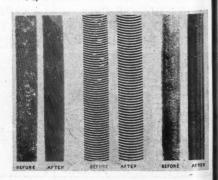
ments.

File Renewal

Files customarily discarded when old or worn, may now be completely restored, thus reducing files costs at least 50 per cent through a wartime method developed by the Sav-A-Tool Corp., 3550 Eastern Ave., Cincinnati 26, Ohio.

According to the Sav-A-Tool Corp., its unique renewal method does not affect in any way the original temper of the old file. For example, all cutting edges on the worn file are carefully sharpened; all burrs are removed, actually resulting in a smoother cutting edge; all files are anti-rust treated and carefully inspected.

Files can be restored by the Sav-A-Tool method as many as three times, it is said. In most cases, restoration of files by Sav-A-Tool does not exceed an average cost of 12c each, and often is considerably less, depending upon the size of the file and the quantity ordered. For industries using files of the larger type, costs may be somewhat higher. Firms using files in large volume may arrange with the Sav-A-Tool Corporation for a trial order. Additional information may be obtained by writing on your company letterhead.



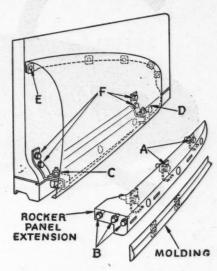


Removing Fender Caps

hood and check alignment.

To remove fender caps on a 1942 Pontiac, first remove the rocker-panel extension bolts and remove the panel. Remove the molding, which is fast-

alignment marks. Reinsert pivot pin at lower end of each hood prop. Close



Replacing Rocker Mats

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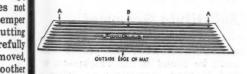
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In replacing Pontiac rocker mats, remove the two screws on the inside of the mat marked "A" if the model is a sedan and a third screw marked

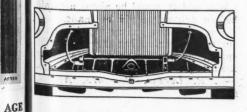


"B" if it is a coupe or two-door sedan, and lift the inside mat up to disengage the retainer clips on the outside edge of the mat. When installing a service mat on early 1941 models, it may be necessary to drill 1/2 in. holes in the inner rocker panel for attaching screws "A" and "B."

Replacing Lower Splash Guard

To remove the lower splash guard on a 1942 Chevrolet, proceed as follows:

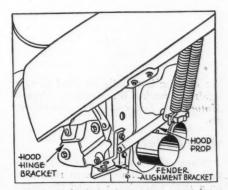
Remove the front bumper assembly and the grille. At each outer end of the splash guard, behind fender, remove three hex-head sheet-metal bolts. Along each side vertical flange of lower baffle, under fender, remove three hex-head sheet-metal bolts. These bolts



attach the lower baffle to each radiator side baffle. On each side, remove the lower radiator side baffle bolt to the radiator support. This bolt on each side also holds the lower baffle at each side of the radiator support. Pull lower baffle and splash guard forward and down to clear corners of each front fender.

Hood Removal

In removing the hood assembly on Series 42-61, 62, 63, 605, and 67 Cadillacs, first raise hood and support in open position. Remove pivot pin at lower end of each hood prop. Scribe locating marks on cowl around each hood hinge to permit reinstallation in

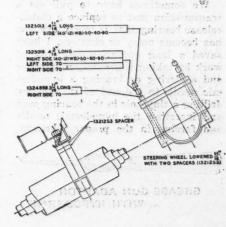


correct alignment. Take out three cap screws at each hinge and remove hood assembly. Disassemble prop with springs, strainer, and hinges on bench, if required.

To reinstall, assemble hood strainer hinges and prop on bench. Lift assembly in place and reinstall hood hinges to cowl, locating them carefully with respect to the scribed ened to the front fender and rockerpanel extension by seven clips and one bolt and nut at front. Remove the three bolts "A" on the side of the extension, the three screws "B" at the front end and remove the extension. Remove the nut and bolt "C" at the front bracket and sheet metal screw "D" at rear bracket and the sheetmetal screw "E" from the inside door flange at the top front. Lift the fender cap up and out from the door to keep from scratching the paint.

Adjusting Steering Column

Steering column on the Buick may be lowered by loosening mounting bolts at frame bracket and instrument panel and adding shims between bracket and instrument panel. New longer bolts are required when adding shims. Before replacing dashmat retainer, pack opening which remains with piece of jute filler to prevent under-hood fumes from entering body.





Here's your chance to pick up a little cigaret money. We'll pay five bucks (\$5.00) for every Shop Kink accepted and printed. So send 'em in to us—some short cut you use in doing a job easier and faster than the other fellow—some special tool you made when you couldn't buy one to do the job—and we'll do the rest. Incidentally we won't accept any that have previously appeared in any other automotive publication. Here are some that were accepted this month.

Bearing Hypodermic

We sometimes have to pull out a transmission just to replace a clutch-release bearing that is merly dry and has become noisy or chatters. I have saved a long operation and lots of work by taking a grease-gun adaptor and soldering or brazing a hypodermic needle to the end of it. Then by drilling a tiny hole in the bearing case and inserting the hypodermic needle and forcing in the proper lubricant,



GREASE GUN ADAPTOR
WITH HYPODERMIC

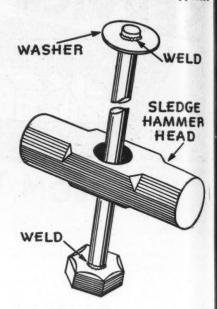
the bearing is usually as good as new again. Charles W. Mermon, Merion Motors, 225 Lancaster Ave., Ardmore, Pa.

Axle Puller

When given the job of replacing both rear-axle inner grease retainers on a 1935 Chrysler, I found the bearing races very tight in the axle housing, and, having no axle-shaft puller, I made a special tool.

Using a nut of the proper size and thread to fit the axle shaft, I bronzewelded it to one end of a 2-ft. length of a discarded Chevrolet steering main shaft. I removed the handle from a sledge hammer, the face of which was too badly chipped for fur-

ther use, and slipped the hammer over the length of main shaft. I then slipped a large, flat washer over the shaft and bronze-welded it about 3 in. from the end of the shaft opposite



the nut. Screw the nut up tight on the axle shaft, slide the hammer sharply against the washer a few times, and the toughest axle will give right up. This puller fits all Chrysler-built cars and some other makes.—Victor L. McGee, 328 E. Broadway, Mayfield, Ky.

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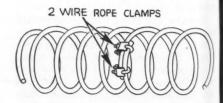
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Substitute Grommet

Until rubber grommets are again available, or when the proper sizes can't be found in the stockroom, we find it very convenient to select a plastic pipe or tubing fitting having a male thread slightly larger than the hole it's to go into. Screw it in the hole, then run the electric wires through the same as for a rubber grommet.—F. M. Girdwood, Pittsburg 5, Pa.

Spring Repair

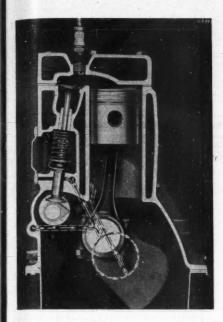
I recently had a 1940 Buick 60 in the shop with a broken rear coil spring. It was necessary to order a new spring from the factory and



I was told it would be about a month before delivery could be made.

I made a temporary repair to the spring by overlapping the ends of the spring at the break and fastening them together with two cable clamps.

—C. R. Lorens, Box 675, Avenal, Cal.



Idling Knock

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We have a 1941 Sturebaker Champion in our service department that has a very pronounced knock in the motor when it is at idling speed. We have not taken down the motor or done any testing but we have noticed that the oil pressure is zero when engine is idling. Whether that is the proper reading or not we do not know. Shorting out No. 1 cylinder, which we believe the knock is in, has the effect of doubling the knock sound, whereas, when the engine is idling free, it occurs at every stroke. Forgot to mention that at road speeds the oil pressure holds at 40 lb. and it is using a No. 20 oil at speedometer reading of 12,000 miles .- A Wisconsin Subscriber.

REGARDING the 1941 Studebaker Champion, which has a knock in the engine at idle speed, I believe you will find this to be caused by a worn camshaft timing gear and the knock can be overcome by replacing the gear. There is also a possibility that it is caused by a loose piston pin. The piston pin is locked in the rod by a tapered pin having a nut on each end. To remove the pin so that you can drive out the piston pin, the procedure is to remove the nut from the plain end of the tapered pin and then tighten the nut on the slotted end of the tapered pin. This will act as a puller and draw the tapered pin from the connecting rod.

I suggest that, before you pull this connecting rod and piston assembly from the engine, you drop the pan and attempt to tighten the piston pin's lock pin. This can be done by using a box wrench and reaching up inside the piston. Loosen the lock nut on the slotted end of the pin and tighten the other one to see if you can draw this tapered pin tighter into the connecting rod. It may be that this

THE READERS'

CLEARING HOUSE

of Servicemen's Queries







Bill Toboldt, Editor, Motor Age

noise is caused by this tapered pin being loose rather than looseness in the piston-pin fit itself. If, however, tightening the tapered pin does not correct the trouble, then it will be necessary for you to pull the rod and piston and fit a new pin.

An oil-pressure gage reading of zero at idle speed is all right, provided the gage reads between 20 and 40 lb. at 40 m.p.h.

Reversing Rotation

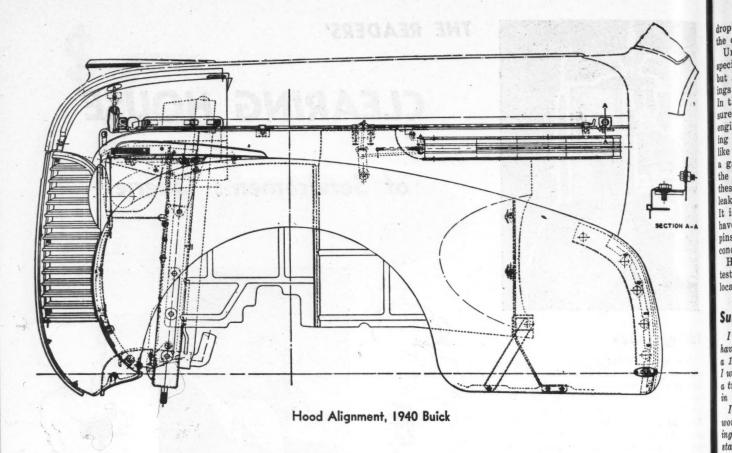
I would like your opinion on an idea which may be all wet and maybe not. But here it is.

We Americans drive on the righthand side of the road. Most of our highways are higher in center. Then we mount engines in automobiles in such a manner as to throw the torque of motor against the low side of chassis. What I would like to find out is—how much more weight, resulting from this torque action, is imposed on the right-hand tires?

I'm not up enough on engineering principles to come to a definite conclusion, but it would seem to me that, if the engine rotated in the direction just the opposite of its present rotation, this would tend to overcome the angle the car sets from the perpendicular on the highway.

I would like your opinion and possibly the opinions of some of the other boys. Ted Grimdol, 414 Field Crest, Pittsburg, Kan.

FROM a theoretical standpoint you are correct when you say that the engine torque tends to lower or press down on the right side of the chassis; however, from a practical standpoint, I do not think that there will be sufficient benefits derived if the engine



were rotated in the opposite direction.

Technically, this effect can be reduced by lengthening the connecting rod and reducing the bore of the engine. However, the usual way of doing it is to offset the axis of the cylinder from the crankshaft. I believe the Ford V-8 has the crankshaft offset about 3/16 in. By offsetting the crankshaft, you not only tend to reduce the effect of forcing down the right side of the chassis, but, what is of greater importance, you reduce the wear on the pistons and cylinders.

Valve Lifters Stick

I have a Lincoln-Zephyr in which I cannot keep the hydraulic valve lifters from sticking. Have taken them out twice and cleaned them well and reinstalled them and, after the engine has run a few hours, they stick again. I made sure not to get them mixed up and all cylinders seem to be free and work easily after washing them out. Ball check is free.

When I took car down and put in rings, the cylinder walls were brown, and the lifters were the same color. It had some water in the valve chamber but not much. I wonder if the anti-freeze has leaked through the gasket and gummed it up. The valve lifters were sticking when the car came in. We have cleaned out the line as well as we know how.

Could you advise me just what to do if it is the anti-freeze, how to clean it out or what will cut it loose? I have used tune-up oil and for some time but does not seem to do the work.—An Iowa Subscriber.

N connection with the trouble you are experiencing with valve lifters on the Lincoln-Zephyr, I would suggest that you clean them once more and also drain and flush the entire lubricating system and refill it with clean oil. In addition, install a new oil cleaner.

Inasmuch as there is some indication that anti-freeze has leaked into the crankcase, it is advisable to check the cylinder-head gaskets to make sure there is no leak present.

To be absolutely sure that all traces of the anti-freeze have been removed from the oil pan and crankcase, it probably would be advisable to remove the pan and then, with the car on a lift or other raised position, thoroughly wash out

the crankcase with a strong stream of water. Then, with an air hose, be sure to blow out all water so as to dry thoroughly the interior of the engine.

The continued sticking of the valve lifters is undoubtedly caused by dirt in the oil, and a thorough cleaning of the engine, plus a new oil filter, should overcome your trouble.

Oil Pressure Drops

A customer of ours bought a used Domark air-cooled power unit Model 6-AN-400, Serial No. 292. He has used it for 10 months and it has been all right except for the oil pressure, which drops to just under 10 lb. when the motor is warm. On starting the motor, the oil pressure is about 90 lb. (where the relief is set) and gradually drops back as the motor warms up. The owner is using SAE 30 oil.

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New crankshaft and connecting-rod bearings have just been installed except for the front main bearing which appeared to be in good shape. The others were in fair shape but showed signs of having been overheated at some time. The babbit had started to run in the center main bearing lines.

The oil pressure was not increased by the installation of new bearings. Can you tell us what to look for next as a cause for the low oil pressure?— Call's Garage, Colrain, Mass.

T O ascertain why the oil pressure drops on your air-cooled Domark engine, I would suggest that you make an oil-leak test on this job, provided, of course, it has full pressure lubrication to the main and rod bearings. This test will show just which bearings are leaking oil, and it will then be an easy matter to replace those hearings which prove to be defective.

I would like to point out, however, that, since this is an air-cooled-engine, you will experience a greater drop in pressure than you would on the conventional water-cooled engine. Unfortunately, I do not have any specific data on this particular engine but I would advise checking all bearings which have pressure lubrication. In this connection, if you have pressure lubrication on the camshaft, some engines have the camshaft rear bearing sealed with a metal disc, others like the Model "A" Ford, simply have a gasket which is held in place by the flywheel housing. In many cases, these camshaft rear bearings will leak and cause a loss in oil pressure. It is also important on engines that have pressure lubrication in the wrist pins that these be tight and in good condition.

However, if you make an oil leak test, you will have no difficulty in locating the trouble.

Substitute Transmission

I would like to know if the idea I have in mind would work out. I have a 1937 Plymouth Coupe—Model P-4. I would like to know if I could install a transmission from a 1939 Plymouth in this 1937 model.

I would like to know what change would have to be made, such as changing flywheel housing, flywheel, installing a different cross number on the frame. Would I also have to change the steering post and steergear box?

If the 1939 transmission won't fit, an you can tell me what kind will work? My idea is to try and hook up a transmission so I can have my gearshifting lever on the steering post. Can this be done? Richard Bloomberg, R-1, Box 147, Rosell, Ill.

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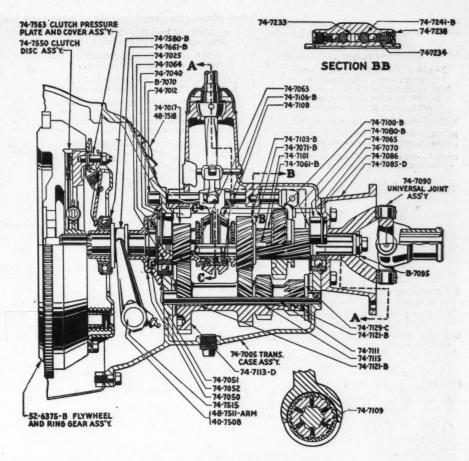
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AM quite sure you will find the transmission as used on 1937 and 1939 Plymouth cars interchangeable. The transmission cases in both these transmissions has the same part number in the Plymouth parts book and are interchangeable. However, if you wish to change to steering-column shift, all you have to do is change the cover and the linkage. Also secure a 1939 steering column to replace the one on your 1937 model.



Oil on Clutch

I have a 1937 Ford V-8 60 hp., with clutch trouble and would like to know if you can help me. As the clutch chattered, I installed a new clutch plate, but, after the car has been driven a few days, it chatters as bad as it did before, only in reverse. Going forward it seems to work pretty well.—A Wisconsin Subscriber.

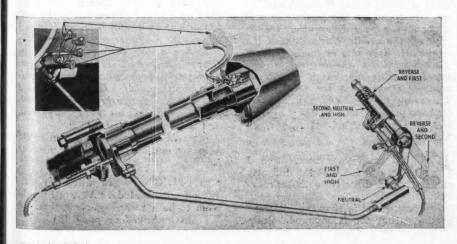
REGARDING the 1937 Ford, 60 Series with a chattering clutch, I am inclined to believe this condition is due to loose or worn engine mounting or loose engine radius rods. Loose rear-axle strut rods would also be a contributing factor. Another point that should be considered is whether, when you pulled the clutch down the

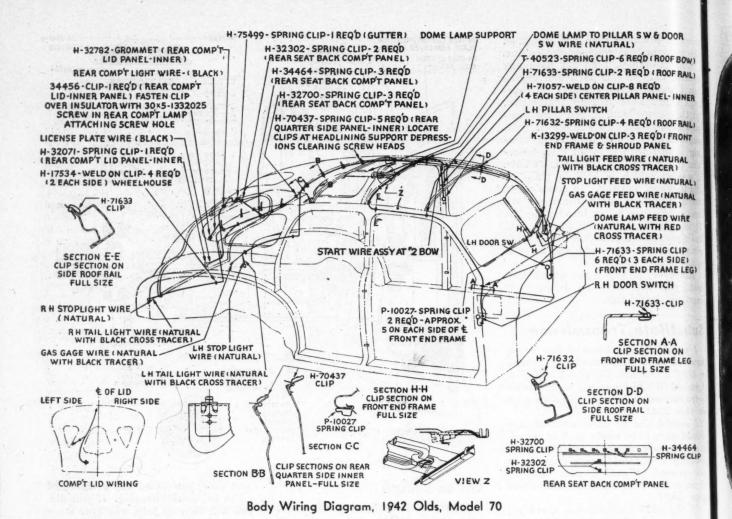
first time, you found any evidence of oil in the clutch housing. If you did, you will have to take whatever steps may be necessary to correct the condition which is permitting the oil to get into the clutch housing before you can hope to have a properly operating clutch for any length of time. A new clutch plate will work all right until it becomes coated with oil and then you will have the same trouble over again.

Bad Condenser?

Could you tell me what's the matter with my Model "A" Ford? It shoots through the exhaust valves. I have timed it right. Can you tell what is the right gap on the points and spark plug? I have the carburetor closed up as tight as I can get it and still get too much gas. Can you tell what to do with the transmission which jumps out of second gear?—Daniel Berger, Gladstone, N. D.

F you are sure the timing is correct on your Model "A" Ford and that the valves are in good condition and are not sticking, I am inclined to believe you will find your trouble in a defective ignition condenser. When the condensers go bad on these models, it frequently sounds as if it is popping back. The breaker points on this car should be set at .020 in., and the spark plugs at .025 in. Tappet clearance is .013 in. It would also pay you





to check the distributor drive shaft for, if this is worn, the engine will fire unevenly at low speeds.

In regard to the carburetor setting, quite possibly your trouble is caused by too high a float level or by the fact that the needle valves are worn. If there is much mileage on this car, I would suggest you install a new carburetor.

The transmission trouble is probably caused by worn second-speed or countershaft gears, which should be replaced. Bent shifting forks and misalignment might also cause the trouble.

Starter Gear Rusts

I am having trouble with a 1936 Ford V-8 starter. About every two weeks, I have to take the starter off and clean the rust from the Bendix gear and wash it. I have performed this operation four times in the last two months. At first, I though the car had been driven through deep water but the owner said, "No." The third time I drilled another small hole in the bottom of the flywhel housing to be sure no water could accumulate there, but it didn't help. Each time I oiled the Bendix good. Now I am stuck as to what to do next. Hope you can think of a cure for this one.

-Bob's Standard Service, 3401 Belt Line Highway, Robinsdale, Minn.

THE rusting of the Ford starter is caused by condensed moisture. The trouble is generally overcome by drilling holes in the bottom of the flywheel housing and also making sure that the vents in the inspection cover on the top of the transmission are open. Some additional holes in the top of the housing might also help.

Quits on Idle

I am having a little trouble with a 1929 Chevrolet car. It rolls or gallops as if it were getting too much gas, but no adjustment on the carburetor will make it run any differently. If you shut off the needle, this will stall the engine. It does this so badly that, if you slow down the engine to idle speed, it will stop, but it would not stop if it were not for this gallop. There are no air leaks. I would like to have you give me all the possibilities you can think of.—A Nebraskan Subscriber.

JUDGING from your description, I am of the opinion that the difficulty can be traced directly to the carburetor.

My first guess is that the idle tube in the carburetor is plugged. Quite often simply removing this tube and cleaning it out will overcome this trouble. There is also the possibility that the air hole in the body of the carburetor at the idle adjusting screw is plugged. Be sure that this is clean first, before you remove the idle tube.

If these two points do not relieve the condition, file a flat on the point of the idle adjusting screw where it uncovers the idle air hole in the body of the carburetor. This will admit more air, and tend to lean out the mixture.

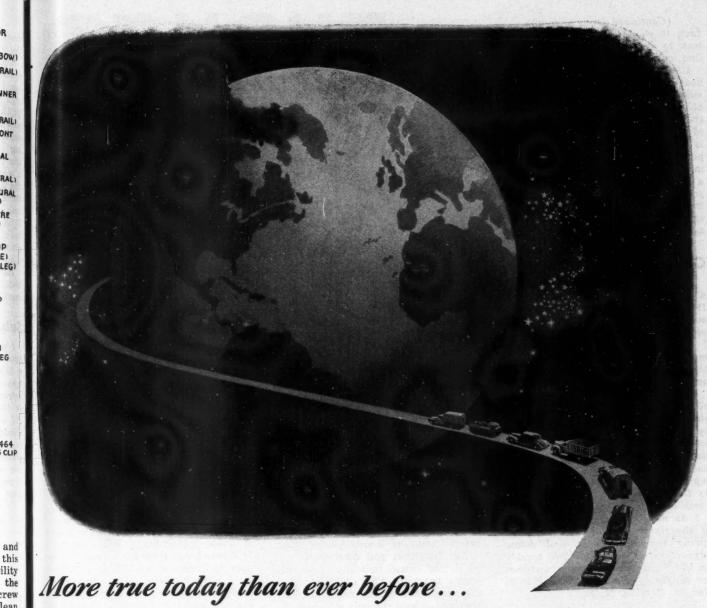
Six Miles a Gallon

I have a 1930 Model "A" Ford that gets about six miles to the gallon of gas on the open road at about 30 m.p.h.

It has a new carburetor, which is properly adjusted. It has new rings, new valves, new coil, condenser, ignition points, all of which, as far as I can tell are properly timed and adjusted. This engine runs very well, and uses little if any oil.

I would appreciate it if you could help me out on this one.—A Kansas Reader.

GETTING only six miles per gallon with a Model "A" Ford would seem to be a record of some sort. In (Continued on page 48)



"The roadways of the world are worn deep with Studebaker wheel marks"

N the war fronts from Russia to France, and from Italy to the Pacific islands, over 150,000 military vehicles built by Studebaker have been writing new pages of transport history.

Most of these vehicles are heavy-duty, multipledrive Studebaker military trucks. But recently the versatile new Studebaker personnel and cargo carriers, known as the Weasels, have been arriving at the fighting fronts in increasing numbers.

Over trackless terrain and shell-shattered roads, Studebaker vehicles are giving new proof with every passing day of the stamina that has characterized Studebaker equipment for over 92 years.

And in like manner on the home front, owners

continue to be amazed at the surviving soundness and exceptional operating economy of the Studebaker cars and trucks that were in service when the war began.

At this time, when all automotive equipment must meet the acid test of wartime conditions, the Studebaker reputation for reliability grows in stature.

STUDEBAKER

Pioneer and Pacemaker in Automotive Progress

Now building Wright Cyclone engines for the Boeing Flying Fortress—multiple-drive Studebaker military trucks—the Army's new Weasel

NOVEMBER, 1944

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When writing to advertisers please mention Motor Age

47

(Continued from page 46)
fact, it would almost have to be a
leak to account for such poor gaso-

line mileage.

I would suggest that you check the float level of the carburetor and also make sure that there are no air leaks at the carburetor flange or between the manifold and the block. I assume, of course, that your ignition system is in good condition, as you say your performance is good. But, before doing any extensive work, I would make a test run to be absolutely sure that you are getting only 6 m.p.g. I am inclined to feel that such poor mileagle could only be the result of leakage or theft.

Chatters in Reverse

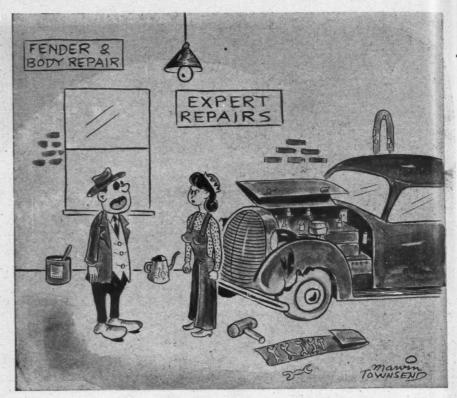
Just about a year ago, I installed a plate and pressure assembly in a 1940, 1800 series, 110 Packard. I removed this clutch because it was slipping. The cause was oil on the lining. I cleaned the two oil breathers on motor and the oil did not drip from the hole in the pan under the flywheel any more.

It was not long before there was oil on the facing and the clutch was slipping again. I cleaned the facing by squirting kerosene on the clutch while the motor was running and working the pedal. The clutch does not slip now but chatters when backing up. The motor and rear end seem as though they are about ready to jump out of the frame.

I do not think it is all the fault of the clutch. Could it be the rear spring shackles, shocks and motor supporters? I have had this trouble on V-8 Fords and the cause was motor supports.—Earl Greene, R.F.D. 1,

Box 60, Catskill, N. Y.

AM strongly inclined to believe that the clutch chatter you are experiencing on the 1940 Packard re-



"I've been hit by a woman driver before, but this is the first time by a woman mechanic!"

sults from the kerosene you squirted on it to remove the oil. Of course, this chatter could also be caused by loose spring "U" bolts, worn spring shackles, worn universal joints, loose or defective engine mountings. Naturally all those points should be checked before installing a new clutch plate.

The fact that you continue to get oil in the clutch indicates a leaking engine bearing. This could be either the rear main or the camshaft rear bearing. About the only way to make a real definite check is to remove the flywheel and then try an oil leak test and see if the bearings are leaking.

Taking Up Brake Cable

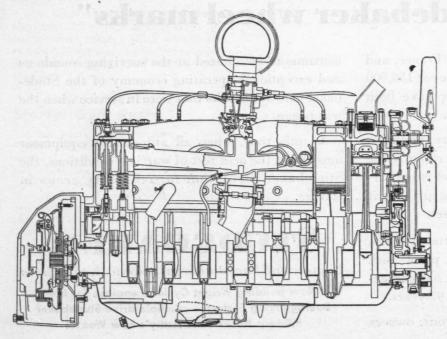
As you have helped me out before, maybe you can help me on this one. The other day a man came in with a 1934 Lincoln, 12-cylinder car to have his brakes adjusted, and I gave them a minor adjustment. When I tried it on the brake machine, I found there was no brake on the left front wheel so I went to take up on the cable and found it was in back of the steering post and that I could not get at it. The other end of the cable is a solid yoke, so this is the only place to take it up, but it is so close to the post you cannot get a wrench to it. Can you please explain to me how to take up the cable on this wheel without taking it out of the car, as that is the only way I see to do it, and it is a lot of work this way.

Can you tell me where I can get a set of pistons for a 1927 fourcylinder Chevrolet? I have tried all the jobbers.—Edward McMahon, 140

Ave. B., Bayonne, N. J.

T is impossible to take up on the front brake cable of a 1934 12-cylinder Lincoln unless it is removed. I would, therefore, suggest that you buy and attach a cable shortener, which you can get from your local jobber.

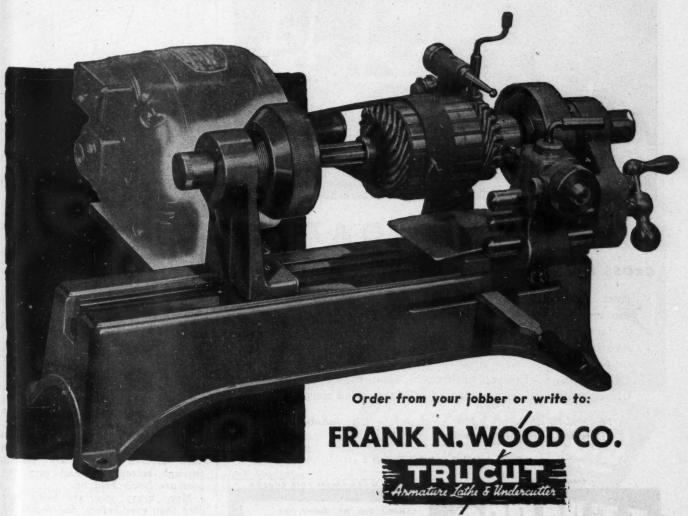
I don't think I can help you with the pistons for a 1927 Chevrolet if the local jobbers or Chevrolet dealers don't have them. The junk yards were supposed to junk all that material sometime ago so you are out of luck as far as they are concerned.



WHEN the boys come marching home and when gasoline rationing is no more, will you be ready to handle the work that will be pouring into your shop? The TRUCUT Armature Lathe and Undercutter is a shop necessity which can't be dispensed with. After hostilities have ceased, this marvelous little tool will be even more vitally necessary for the flood of work that will descend upon automotive repairmen.

With the TRUCUT you can handle more jobs, do the work faster, more accurately and more profitably. The TRUCUT machines and undercuts commutators, makes them like new, in five minutes.

Now is the time to order your TRUCUT Armature Lathe and Undercutter, so that you will be sure to have it when hostilities cease.



344 W. MAIN STREET . WAUKESHA, WIS., U. S. A.

PACIFIC COAST ADDRESS: 1340 S. FLOWER ST. LOS ANGELES 15, CALIF.



Star Roles for Mechanics

(Continued from page 29)

his tool cabinet gives him a sense of self-respect, like any other businessman who has his name on his desk or department. The service manager has an inter-communicating system with each mechanic and they talk back and forth with each other just like department heads in any other business.

The men work on a flat rate, but also receive a commission on business they originate themselves. Customers are encouraged to call for mechanics by name and many of the mechnics have a considerable personal follow-The helper system also works ing. well in this shop. A mechanic can use a helper on any job he desires, the company paying half his wages, the mechanic the other half.

Jobs that require very little skill, helpers may do alone, such jobs as putting a hose connection, installing a light bulb, a battery cable, or a fan belt. This enables full-fledged mechanics to devote their entire time to more exacting jobs, such as tuning engines and relining brakes. Helpers



"I think there's room enough now for us to get our tools in!"

switch back and forth between mechanics as needed. Mechanics take jobs in order, but they, too, can swap around among themselves. However, certain jobs, such as front-end and wheel-alignment work are left to specialists.

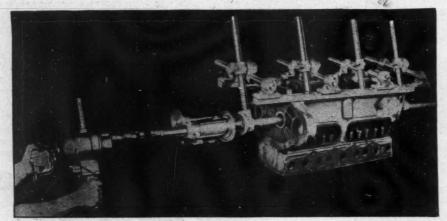
A good example of independent businessmen are the two lubrication specialists. They have been with the company for more than five years and now turn out 45 jobs a day on the average. In addition, they spot numerous needs which bring them extra commission. They have just as much opportunity to make money as the proprietors of the business. Individual initiative is rewarded by increased pay checks.

The parts and service departments team up to see that a minimum of jobs is turned away on account of a lack of parts. Say a customer is turned away on that account. The service manager takes his name and then calls him when that part arrives. This is considered much better than trying to hold the vehicle until the part arrives. Parts are coming through better now and very few jobs are being held up.

More heavy jobs are being handled than ever before, one recent job on a truck running to \$900. To take care of the increased volume and heavier jobs, the parts and accessory department tripled its inventory and now carries a \$45,000 stock. The company several months ago placed one

(Continued on page 52)

G



FULL - FLOATING

CROSS BARS . TRUNNION JOINTS . VERTICALS

Even if crankshaft is badly warped, the floating, self-aligning construction of the Lempco Line Boring Machine assures perfect alignment of both main and camshaft bearings. Exclusive direct fore and aft feed pull. Non-creeping tool lock. One set-up is all that is required for servicing both camshaft and main bearings. Take-up adjustment compensates for wear. Direct-reading micrometer is an important added convenience.

NOTE: Model VGE bas 2" x 120" boring bar for large industrial power motors and marine engines. _

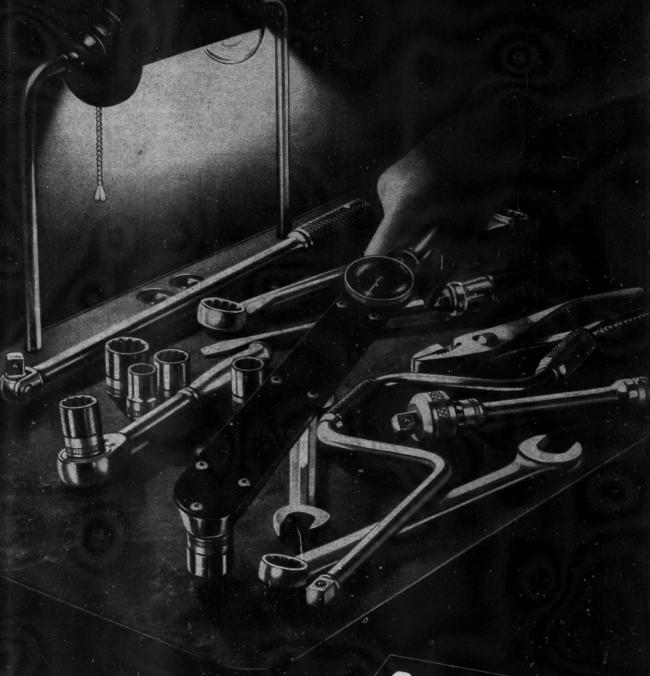
CEILING - PRICED!

Prompt Delivery SEE ONE WORK - MAIL THIS COUPON LEMPCO, Dept. MA, Bedford, Ohio Gentlemen: Tell me shop nearest me where I may see a LEMPCO Boring Machine in operation. NAME ADDRESS BEDFORD · OHIO · CITY..... STATE..... U . S . A TABLISHED

VO

NO





For Every nut turning operation there is a Snap-on wrench engineered to do the job better, easier, with greater accuracy and safety. Standout for precision is the Snap-on Torqometer shown above ... unexcelled among tension measuring wrenches for unfailing accuracy under all conditions.

Widely used in factory assembly for precise bolt tensioning to prevent mechanical distortion, a Snapon Torqometer insures prescribed bolt tensions on your important service operations . . . helps assure peak performance of every service job.

The TQ-150, standard 150 ft. lb. Torqometer accepts any ½" square drive socket and can be used with extensions or ratchet adaptors. As you tighten

THE CHOICE OF BETTER MECHANICS

the bolt you watch the bolt tension increase . . . on the easily read dial . . . and stop at the exact tension required. Fourteen other sizes ranging from 0-30 in. lbs., up to 0-2000 ft. lbs., are also available. Write for Snap-on's car and truck tension chart.

SNAP-ON TOOLS CORPORATION, 8036-K 28th Ave., Kenosha, Wis.

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Star Roles for Mechanics

(Continued from page 50)

of the largest orders for paint and lacquer ever recorded in the South. It is now supplying paint in 10 gal. cans and thinner in 54 gal. drums to other dealers and shops in its territory, as well as supplying its own needs.

The concern's main place of business and service shop is at 510 Broad St. The paint and body shop is in the rear, facing another street, and the used-car shop is at a separate location. The service department has 20 employees, the parts department five, and the paint and body 30. Five girls are employed in the office and parts department.

Service floors in the shop are repainted and lacquered every 60 days. The service manager and service salesmen wear white coats, as do parts department personnel. Mechanic wear slack suits that carry the company name.

This concern follows the department-store principle that the customer is always right and, if a job is not satisfactory, it will make it so. This doubtless has had something to do with its success during a period when even reliable concerns sometimes turned out shoddy work, due to inexperienced mechanics and over crowding.

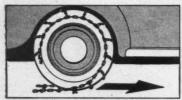
Co-owner W. H. Gourley said his concern didn't expect to have many new or used cars to sell for two or three years after the war and will still "put first things first" by concentrating on service. In fact, he said the war had "awakened us" to the possibilities in service. It is planned, as soon as possible after the war, to doll up the service department and make it the show place of the business. That will give still more prestige to the "technicians" who work



Lay tire chains flat ground Straighten all kinks.



Distribute chain over tire, with flat side of cross-chain hooks against tire. Tuck end of chain toward front of



Move car forward about one foot. cross chains evenly. Make sure side chain fits snugly on both sides of tire.



Lock chain, inside first. To do this, open lock, insert link, fold cover down into locked position. Inner and outer chains should be equally tight.



Go over chain with care, take up any slack and make chain tight by re ing, the tighter the better.

Install Tire Chains Properly Properly

They'll give more wear

Check your own methods and those of your repairmen for installing tire chains. A few, simple, but not always known rules, if followed in putting on chains may add tremendously to their serviceable life. Remember, help conserve tire chains by adhering to the code for the winter of '44—(1) Repair chains promptly; (2) install properly; (3) replace only when necessary.

PYRENE CHAIN GUIDE

Your Pyrene jobber has a new chart for you. Ask for it. It shows your shop men how to install and conserve tire chains. Get genuine Pyrene Chains and Repair-Parts from your jobber.

Pyrene Illanufacturing Compan NEWARK 8 • NEW JERSEY ATLANTA • KANSAS CITY • CHICAGO SAN FRANCISCO

Affiliated with C-O-TWO FIRE EQUIPMENT COMPANY



Knowledge of Costs Vital

(Continued from page 19)

assumes that wartime conditions have solved any of the basic problems of small business will awake with a jolt once peace comes.

One of the least of the repairman's worries during the war has been costs. With all the work it can possibly handle, the average shop today does not have to lose much sleep over paying rent, light, heat, and other fixed charges. OPA ceilings often are not so high as the shop might like, but they are substantially above prewar levels.

Mechanics are difficult to find, but a shop that pays straight weekly wages does not have to fret about idle time. and shops that pay mechanics on a flat-rate basis don't have to listen to grumbling about the lack of jobs.

After the war, an increase in the number of shops is going to make it hard to maintain customer prices. At the same time, wage rates are not going to fall abruptly, since the labor shortage is not going to disappear as if by magic. It has been estimated that, if the armed forces are demobilized at the same rate as that at which they were drafted. more than three years will be required to release all the men now in uniform. The hiring of topnotch mechanics, therefore, will be gradual.

Thus squeezed on the one hand by falling prices and on the other by comparatively stable wage rates, good management will be needed to maintain profits. If competition is intensive, as it may well be, there will be a tendency to cut prices. shop that takes the trouble, before peace comes, to determine its costs will be in position to know when prices can be lowered and when they

There will be plenty of repair business after the war. Forwardlooking servicemen wil make certain it is profitable.



Now is the time to get Down to Earth

You'll need all the satisfied customers you can get in the post-war period. So get both feet on the ground now with the ring leader...McQuay-Norris Altinized Engineered Set Piston Rings. Thousands of successful repairmen are using these rings for better business, bigger profits.

Always call your McQuay-Norris jobber first!

McQUAY-NORRIS ALTINIZED ENGINEERED SET PISTON RINGS are designed and made to give new life to old and worn motors. There's a set of these rings engineered specifically for each make and model of car.



McQUAY-NORRIS

PISTON RINGS • PISTONS • PINS • VALVES
BOLTS • BUSHINGS • SILENT-U SHACKLES



BEARINGS . SLEEVES . PUMP PARTS
WHEEL SUSPENSION PARTS

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Makes Deal for Post-War Planes



Capt. Eddie Rickenbacker, president of Eastern Air Lines (left), with Guy Vaughan, president of Curtiss-Wright Corp., after the former signed a contract with the plane company for post-war passenger planes. He holds a model of the Curtiss Commando type plane.

Ford Plans to Recapture Sales Lead With Improved Line and Low Price Model

With the definite objective of recapturing first place in the automobile sales field, Ford Motor Co. officials have announced a \$150 million expansion and reconversion program, following a three-day post-war planning meeting attended by company officials and regional managers. Most of this money will be spent for plant expansion, machine tools, and equipment.

The company also announced that its first post-war models will not be merely face-lifted, pre-war models, but will incorporate more changes than some of the industry's year-toyear revisions in peacetime days. Henry Ford, II, executive vice president, said that, although most of the changes will be those made within the scope of WPB limitations, there also will be included some wartime functional improvements which have been developed in conjunction with war work. At the same time, he reaffirmed a previous announcement that the company has plans for a lower-priced car, which probably will be put into production sometime after the first post-war cars are on the market, and which will sell at an estimated 20 to 25 per cent below the conventional Ford line.

Production plans calls for reopening all former assembly plants, establishment of at least one more assembly and one more manufacturing plant, and construction of ten or more parts depots. The company already has purchased land for a plant at St. Louis, and has the land for a parts depot at Denver to cost a half million dollars. Also, engineering and research departments have been expanded and consolidated and considerable equipment has been installed during the war.

Asked about prices for post-war cars, Ford said that OPA probably will allow a price increase, but would not comment on the extent, saying only that the agency might be guided by the experience of increases in truck prices during the war.

The company looks to a post-war market of 40 million car owners after the war, 10 million more than in pre-war years. How soon this goal will be reached, officials say, depends on the extent of government restrictions on output.

To set up a vigorous sales program,

the company and its regional managers have approved a committee of dealers to serve as a factory advisory group. The committee will bring dealers into closer touch with sales, engineering and production executives who then will be able to translate general owner suggestions into a finished product. The company also has set up a dealers' sons program which calls for special training in Ford plants in manufacturing operations as they relate to sales and service, also a thorough course of training in the problems of production, distribution, and business management.

Company officials also announced that Ford will resume production of light commercial trucks in February. Ford will produce 27,000 trucks this year and had contracts for thousands more during the first half of 1945.

Ray Rausch, general superintendent, declared that, if control of materials and manpower is lifted after the fall of Germany, the company could get into production of cars in 60 days.

51,050 Plane Engines

Production in a 30-month period of 51,050 Pratt & Whitney aircraft engines by the Chevrolet Motor Division of General Motors Corp. was announced last month by M. E. Coyle, Chevrolet general manager and vice president of General Motors.

The 30-month period covers the two and one-half years from production of the first P&W engine by Chevrolet on March 30, 1942, to Sept. 30, 1944. Engines manufactured during that time provided the armed forces of the Allied nations with more than 61,000,000 aircraft horsepower, Coyle stated.

Currently, Chevrolet is producing three models of P&W aircraft engines. Two models of 14-cylinder 1200 hp., are being used to power Liberator bombers as well as C-47 and C-53, Douglas-type cargo planes. An entirely new 18-cylinder model, developing more than 2,000 horsepower, is designed to power fighter and bomber planes, including the recently announced P-61 "Black Widow" night fighter and the new Thunderbolt. It is one of the most powerful of all radial aviation engines.

Harry J. Bostwick

Harry J. Bostwick, 45, manager of the staff coordination and post-war development department of Chevrolet Division of General Motors Corp., died in Detroit Oct. 6 after a short illness.

He had been associated with GM since 1927, when he joined the central office, and had since served in regional offices at Dallas, Tex., and Janesville, Wis., before being appointed to the position he held at the time of his death.



● Old Man Winter is roaring 'round the corner, and this year he'll really be tough on war-weary cars. Beating him to the punch is Casite's famous guarantee — "Summer Starting in Winter Weather or Double-Your-Money-Back." So help your customers get ready for winter . . . with Casite!

Casite customers are *repeat* customers. They want to protect their engines from long, grinding winter starts, from needless and expensive

wear-and Casite is the guaranteed answer!

Casite cleans out aging motors and keeps them clean; prevents congealing of oil and speeds lubrication. Result: engines leap to life . . . even in the coldest weather.

YOU can't lose! Your jobber will show you how to tie in . . . and cash in . . . on Casite's winter sales campaign.

THE CASITE CORPORATION . HASTINGS, MICHIGAN

Casite advertisements appear regularly in:

THE SATURDAY EVENING POST LIBERTY POPULAR MECHANICS POPULAR SCIENCE MECHANIX ILLUSTRATED SCIENCE AND MECHANICS COUNTRY GENTLEMAN SUCCESSFUL FARMING FARM JOURNAL

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IT'S A PRIVILEGE TO BUY WAR BONDS



TRATABLEE We guarantee that any motor capable of being started in a warm room will start in the coldest weather when Casite is added to the crankcase . . . Add Casite according to instructions. If your car fails to start, you get double your money back by filling out guarantee certificate and mailing it to The Casite Corporation, Hastings, Michigan. Maximum refund is \$1.30 per pint, which is twice the nationally advertised price of Casite.

CLEANS OUT MOTORS..

KEEPS MOTORS CLEAN

Post-War Shop

(Continued from page 21)

Unless you are experienced in preparing such advertising material, it is advisable to have experienced help do this for you. If yours is a large establishment, it will be advisable to have an advertising agency do this work for you. However, most of the small shops use advertisements and letters which have been prepared by companies manufacturing parts and equipment. Virtually all parts and equipment manufacturers have spe-

cial direct-mail material for use by independent repair shops and car dealers. All this material is of very high quality and is relatively low in price. Some of these companies also offer assistance in the preparation of mailing lists. Details of such direct advertising material can be obtained from your local automotive parts jobber.

Most repair shops also find it advantageous to advertise in the local telephone directory. Many car owners consult these directories when looking for a repair shop, and the costs for such advertisements are relatively low.

Newspapers are also used frequently as an advertising medium by automotive maintenance establishments. This is particularly true in the cas of shops located in small towns when the newspapers are probably more closely read than those in the large metropolitan centers.

Here again the copy for such advertisements can be secured, along with the necessary illustrations, from parts and equipment manufacturers

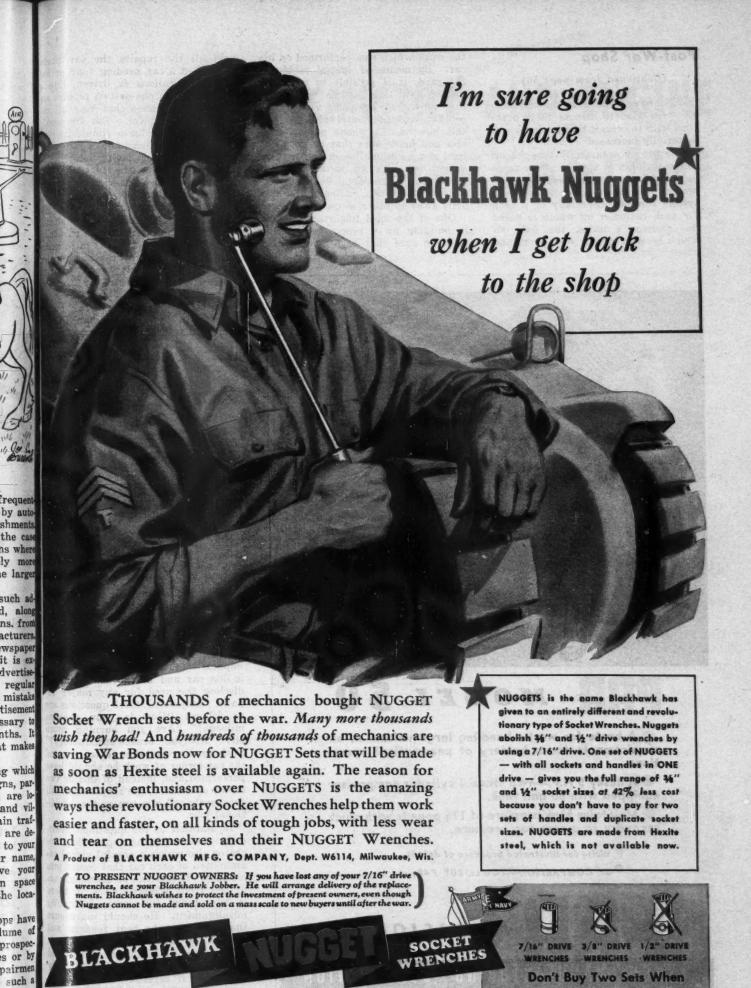
In connection with both newspaper and direct-mail advertising, it is extremely important that the advertisements or letters be used at regular and frequent intervals. It is a mistake to believe that, if an advertisement appears once, it is not necessary to advertise again for many months. It is the constant repetition that makes advertising pay.

Another form of advertising which is used frequently is road signs, particularly by such shops that are located in the smaller towns and villages and generally on the main traffic arteries. Such road signs are designed to attract the tourists to your shop and, in addition to your name, these road signs should give your telephone number and, when space permits, directions covering the location of your shop.

Many automotive repair shops have materially increased the volume of their business by calling on prospective customers at their homes or by telephoning them. Many repairmen are rather reluctant to make such a personalized effort but those that have

(Continued on page 58)





NOVEMBER, 1944

at have

R AGE

When writing to advertisers please mention Motor Age

WRENCHES THAT SMASHED TRADITION

One Will Do the Job!

Post-War Shop

(Continued from page 56)

done so have found that the car owners were glad to discuss their problems with the result that business was materially increased.

The use of a carefully thought-out follow-up plan is also of great value in maintaining and increasing the volume of your shop. Such a follow-up system consists essentially of a card for each customer on which is noted the customer's name, the date on which he was last in your shop, and

the work which was performed on his car. By means of special tables on the card, it is possible to tell at a glance how long it has been since that particular customer visited you so that, at stated intervals, you can call him on the phone or write to him and make sure that he does not need any additional work and that he is satisfied with the work you have performed in the past. Without such a follow-up system, customers tend to drift away to other shops.

One of the most important factors in building up a repair business is to make sure that each customer is sold all the repairs the car needs. Too often a car needing four or five repair operations is driven into a shop and only one or two repairs are made just because that was all the customer asked for. Too frequently a car comes in for a simple lubrication job and is driven out again without the customer having had his attention called to the fact that his wheels are out of line, that his fenders needed straightening, or that a new set of rings was indicated.

Every repair shop operator should make it a routine matter to carefully check each car that comes in to make sure that there are no other repairs needed, particularly such repairs which would cause a car to stop operating.

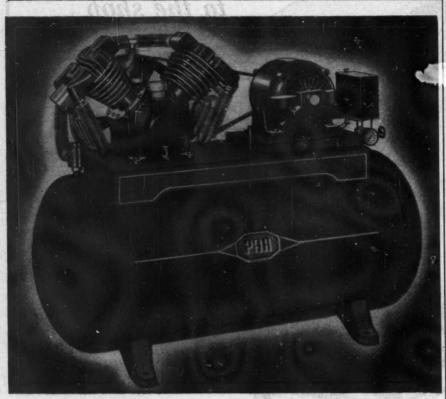
Nothing aggravates a car owner more than to have his car fail in some other manner shortly after he has had some other repairs made. Invariably the car owner blames the repairman for doing an incomplete job.

The repairman, therefore, should make it a point to make a quick check of the starting battery, the starter, ignition, and carbureting system, to make sure that they are in good condition and will continue to operate until such time as the owner will, in the normal course of events, make another visit to the shop. Naturally, if such examination discloses a weak battery or any other defect, the additional parts and labor are invariably easily sold and there is little likelihood of the car owner looking around for some other shop to make any future repairs.

In addition to making sure that the car will continue to start for many thousand miles, some shop owners make it a practice of asking the car owner a few simple questions. These questions should be phrased so as to impress the owner with your interest in his car and at the same time to disclose the need for any major repairs. In general, these questions are as follows: "How is your gasoline mileage?" "Are you burning much oil?" "Are your brakes satisfactory?" Such leading question often remind the car owner of work he should have performed and, instead of one or two repair operations, the shop owner will frequently sell him two or three additional jobs.

In addition to the questions previously mentioned, the repair-shop operator also makes a careful visual examination of each car that comes into his shop. In general, he should glance at the front wheels to see if there is any undue tire wear, indicating misalignment. He should make sure that there are no bent fenders and that all the lights are operating.

These are all simple questions and observations which can be quickly made and, if carefully followed, will spell the difference between success and failure in the post-war period.



PAR MODEL 50

- A brute for work—handling large volume of air requirements for a battery of pneumatical operations.
 - A husky 5 H.P.—two stage 4 cylinder compressor equipped with 80 gal. tank.
 - Maintains tank pressure of 175 pounds with quick recovery to assure top pressure.
 - Write for illustrated brochure of details.
 - BY COMPARISON-YOU'LL BUY PAR.

LYNCH MANUFACTURING CORPORATION DEFIANCE, OHIO, U. S. A.

CHEMISTRY AND ENGINE DEGREASING

> Degreasing as the first step in engine rebuilding means real savings in time and labor . . . makes it possible to do a better job faster.

Ho-Zof is the modern, chemical way to remove accumulations of grease, oil, and grime. It's quick . . . thorough . . . safe! Mixed with kerosene—or a suitable substitute—this chemical compound developed in the famous Hollingshead laboratories converts grease into a form of liquid soap that is easily flushed away with water. It's ideal for degreasing motors, machinery, parts, tools, work pits, floors, driveways. No noxious, explosive fumes. Leaves no slippery film. R.M. Hollingshead Corporation, Camden, New Jersey; Toronto, Can.

LEADER IN MAINTENANCE PRODUCTS

Whiz

BUY MORE BONDS!

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NOVEMBER, 1944

When writing to advertisers please mention Motor Age

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Part of the more than 400 visitors viewing a Chevrolet truck with Thornton tandem two-speed transmission and ax'e unit at the open house held Aug. I to celebrate its 10th anniversory by Jarvis Downtown Chevrolet, Peoria, Ill. The program was built around the theme of truck conservation and arranged by Roy L. Larson, manager.



HULBERT'S

Smash-Proof

CREEPERS

No required.



WILL NOT SMASH even when run over by cars or light trucks! Hardwood construction, bolted and screwed together, will not wrack loose or come apart. Have the strength of the most expensive metal creepers, with the comfort, low price and light weight of a wood creeper.

NOTE THESE FEATURES!

- Extra sturdy casters, made for hard service on cement floors. Big 1¾ inch wheels. Our own 888 Brand.
- Long headrest, permanently covered. Most comfortable and convenient type ever devised.
- Patented offset construction rolls easily under low cars. Cannot tip over and operator cannot slide off. It is not practical to build creepers lower than these.
- We guarantee the wood in these creepers not to smash for one year under any conditions. Beds are now made of Waterproof Hard Plywood.
- Wood is sealed with two coats of spar varnish. Smooth and easy to keep clean.
- No projecting ends to break off.
- Bolted and screwed together. Any part can be quickly obtained from the factory at reasonable cost and installed in a few minutes time. SMASH-PROOF creepers are a permanent investment proven by many years of leadership.

SMASH-PROOF Creepers are carried in stock by all leading automotive jobbers in the U. S. and many foreign countries.

HULBERT CREEPER CO., Ashtabula, Ohio

Announces Plan to Train Veterans as Distributors

At least \$100,000 will be invested by the Bowes "Seal Fast" Corp. to select, train and finance a number of returning veterans as members of the company's distributing organization, it is announced by Robert M. Bowes, "Seal Fast" president. Those who qualify will be set up in business for themselves as wholesale distributors of the company's tire-repair equipment materials and other automotive products. They will serve automotive servicemen in exclusive and protected territories.

In explaining the idea behind the plan, Bowes points out that too little thought is being given to sales planning for the post-war period. "All the planning I have heard about," he says, "has to do with making new cars, new tires, new refrigerators, new things of all kinds, with very little thought being given to how to get those things sold.

"But 40 years in business has convinced me that just making those things won't make prosperity a sure thing."

Bowes is convinced that the best personnel for the post-war sales army is to be found among members of the fighting forces. "They will have a special interest in continuing to fight after they come home to keep American economy ticking." he says.

Information about the Bowes plan is being spread through advertising in national magazines. A booklet, explaining the "Importance of Selling," has been prepared by Don Herld, writer and cartoonist. This will be distributed as widely as possible among soldiers, sailors and marines.

Take Over Publication

The Tool Engineer, the official magazine of the American Society of Tool Engineers, will be published by the society commencing with the February, 1945, issue, according to the announcement made by Adrian L. Potter, executive secretary. For the past 10 years The Tool Engineer has been published by an independent contractor.

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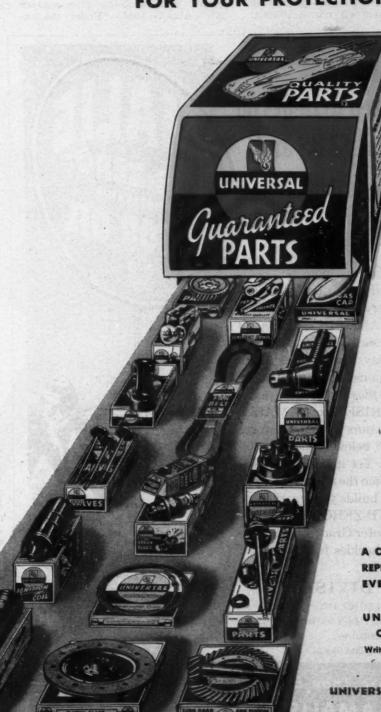
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NIVERSAL

...AND UNIFORMLY PACKAGED FOR YOUR PROTECTION



A COMPLETE LINE OF REPLACEMENT PARTS FOR EVERY CAR AND TRUCK

UNIVERSAL JOBBERS

Write us for the name of your nearest Johber.

UNIVERSAL MEANS BUSINESS

Copyright 1944, Universal Parts, Inc.

UNIVERSAL PARTS, INC. CHICAGO

Hints Improved Cadillac

(Continued from page 31)

1. Contrary to general opinion that the first post-war car will be just another 1942 model, the new Cadillac will embody engineering, manufacturing, and metallurgical advances comparable to three years of peacetime progress, because of the company's experience in supplying engines and hydramatic transmissions for combat vehicles. Because production on these items has been continuous during the war, reconversion will not be difficult.

2. The task of rebuilding the nation's motor transportation system will sustain payrolls of car manufacturers and their suppliers for several years.

3. Post-war sales and service activities will offer employment to hundreds of thousands of returned veterans

4. According to two independent surveys, four out of five present Cadillac owners plan to buy the same make of car after the war.

"It took a world war to confirm to many new car buyers the inherent quality and durability of a modern car," Ahrens said. "Under the extended ownership forced by shortages and rationing, owners have had a chance to resell themselves on the car they drive. They have also found out the advantage of having factory-engineered replacement parts installed on that car, and necessary service performed by the dealer or distributor where they bought the car."

GM Institute Honored

Presentation of the Distinguished Service Award by the office chief of ordnance, War Dept., and a commendation from the Navy Dept. were highlights at the 25th anniversary celebration of the General Motors Institute at Flint, Mich., Oct. 20. The award and commendation were accepted by Major Albert Schey, director of the institute since its founding in 1919.

Industrial leaders, military officials and leaders in engineering public education from many parts of the country were among guests attending the two-day conference at the institute.

Theme of the conference, held in connection with the marking of the anniversary, was the cooperation of industry and education for progress in the post-war era, with education providing foundations broad and sound enough to meet post-war requirements and industry providing specific training and development to meet requirements for executive, technical and mechanical leadership.

C. E. Wilson, president of General Motors, spoke at the anniversary ban-

quet Oct. 19.

C. F. Kettering, vice president of General Motors in charge of research, spoke at the luncheon of the leaders

on cooperative education.

General Motors Institute, formed in 1919 as an evening school, was taken over by General Motors in 1926 as its central agency in education and training for its various divisions with emphasis on training for its supervisory and its executive personnel and of young men for future technical and leadership responsibilities.

The school was greatly expanded in 1940 because of war training de-

mands.

Battery Men Promoted

Two major promotions were announced last month by John C. Sykora, Gould vice-president and sales manager, in a recent bulletin.

manager, in a recent bulletin.

E. R. Jacobsen, New York divisional sales manager for the last 10 years, has been advanced to the newly created position of Eastern Division railway sales manager. As such, he has supervision over all sales of Gould railroad batteries in the East. His successor as New York divisional sales manager is W. W. Halsey, who has been a Gould sales engineer in New York since 1938.

Engineered to Help You Keep Vital CARS and TRUCKS on the Job All Winter

Whenever the thermometer reads below 45° that's your cue for a plus profit on every car and truck you service. Put AMALIE SUB-ZERO in the crankcase and you give your customers easy starting and sure protection against sudden temperature drops ... plus protection against temperature RISES, too! AMALIE SUB-ZERO pours at temperatures as low as 25° below, depending on S.A.E. grade. Yet it gives complete lubrication when the mercury climbs. Cold weather builds your market for AMALIE SUB-ZERO . . . and for **AMALIE** Winter Grade Lubricants, from spring shackles to differential.



Get your free copy of "HOW TO MAKE MONEY ON A FALLING THERMOMETER." It's chock full of practical profit pointers on winter lubrication. Ask your AMALIE Distributor or write Dept. M-6.

How to make money on

AMALIE DIVISION

L. SONNEBORN SONS, INC. 88 Lexington Ave., New York 16, N.Y. Southwestern Distributors: Sonneborn Bros., Dallas, Texas.





NOVEMBER, 1944

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When writing to advertisers please mention Motor Age

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Super Service

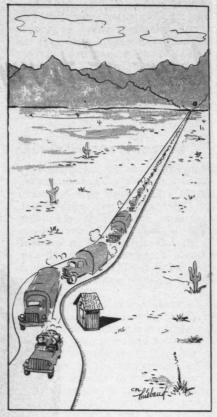
(Continued from page 32)

tuneups, front-end work, and carburetor work. In addition, a complete brake department was installed, along with wheel-aligning and headlight-testing and repair equipment. Then in 1938 a tire-recapping department was added.

Although the shop has always been profitable since its establishment, Judge Radliff's foresight has enabled it to prosper more than ever under wartime conditions. The mechanical

departments are now furnishing the major portion of the income. In fact, the brake and tire work together carry the entire station expense. The tire work consists largely of recapping, from 150 to 200 jobs being done monthly.

As a part of the Golden Rule policy, the station inside and outside is kept attractive for customers. The location of the station is very convenient, being only two blocks from the downtown district. Parking facilities are excellent. There is always a place for customers to stop right at the door. The station is set back



"Those highway engineers don't wait for anything."

from the street, with plenty of space left in front to reach the four pumps and the three service entrances.

The building has a frontage of 80 ft. and a depth of 145 ft. It is constructed of brick, laid with rough mortar, giving it an attractive and distinctive appearance. The floors are all of smooth concrete.

The shop is lighted by daylight as much as possible. Much of the wall is of glass. Both the front panel doors and the service door at the side are glass from 4 ft. up. Skylights help light the mechanical department.

In normal times, 12,000 to 15,000 gal. of gas are pumped every month. Today the volume is approximately half those figures. Oil sales show a high ratio to gas sales. At the present time the ratio is 39 to 1.

The lubrication department has two entrances. In one stall is a lift, while in the other is an open pit, always kept clean. A third entrance leads back to the mechanical department.

To keep the front part of the station looking attractive, screens or backgrounds 6 ft. high separate the lubrication from the mechanical department. Then, a 3-ft. wide strip of awning of neutral color is attached to the ceiling and hangs down all the way around the lubrication department and third service entrance. The neutral color blends with the color of the floor and screens. The (Continued on page 66)



Today the McAleer line of Automotive Finishing Materials is an important part of shop business for hundreds of Collision Shops, Service Departments, Garage Operators and rightfully so,—for A-1 RUBBING COMPOUND, SPEEDIE-RUB, two-way POLISH and CLEANER and QUICK-WAX are Quality Controlled products with years of CUSTOMER ACCEPTANCE behind them.

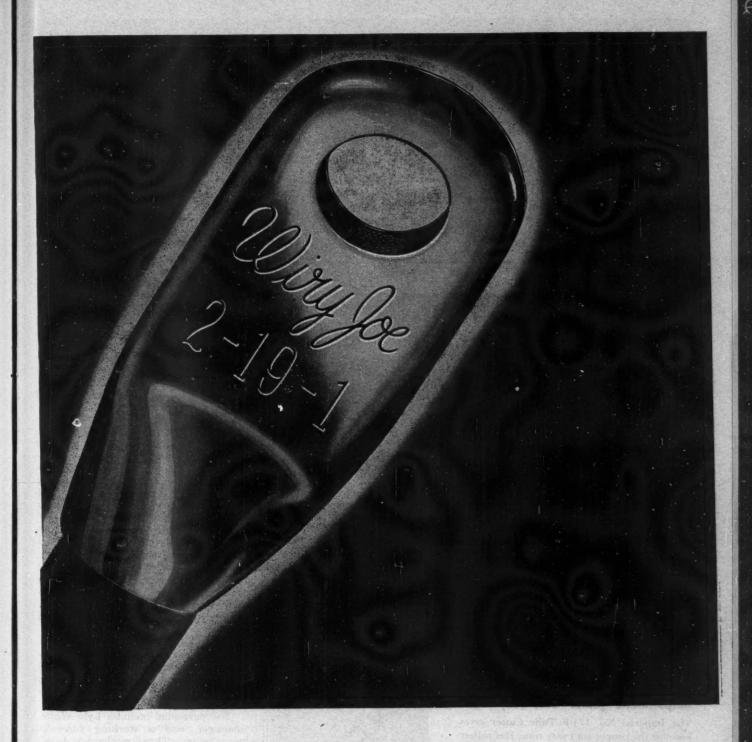
Take a Tip—Take the Logical Steps. Order these job-tested, profit-proven products from your local Jobber TODAY.





QUALITY-CONTROLLED Automotive-Household-Industrial FINISHING MATERIALS

ROCHESTER, MICHIGAN



This new Wiry Joe lug excels in mechanical strength and electrical efficiency—ends battery cable headaches! Copper cable and seamless copper lug are pressure welded into a homogeneous unit. There's no solder . . . no burned insulation! The lug extends over the insulation, eliminating fraying. The weld cannot be broken regardless of twist or strain . . . there's no bare wire to arc or waste current—electrical loss is impossible!

Ask your jobber about Wiry Joe's new battery cable lug. And look for the announcement of other Wiry Joe innovations soon!

Check the wire on every job

manufactured by
THE CRESCENT COMPANY, Inc.
*Pawtucket, Rhode Island.

Super Service

(Continued from page 64)

screens and awnings together effectively hide the shop operations, yet leave the building open to air and light.

The washing department is located in the rear, adjacent to the safety lane. It is separated from the latter by a framework of pipe from the top of which descends a strip of awning similar to the one in the lubrication department. The awning reaches within 6 in. of the floor. Its bottom

is weighted to keep it from becoming soiled by water and dirt. This arrangement screens the washing department from other departments and at the same time is not unattractive.

In the battery department, a quick charger is used, as well as a pony charger, which is taken to homes when cars are stalled in their garages. Battery-charging jobs number 75 to 100 a month.

The tire department consists of new-tire sales, repairing, and recapping. The latter has become an important part of the business. Some pre-war tires have been recapped the second and third time. This department not only produces a good volume of business in recapping but also helps new-tire sales. When customers keep their old tires too long and find out they cannot be recapped, they become prospects for new tires.

The motor-repair and brake shop occupies a working space of 35 by 50 ft. This does not include space where cars awaiting service are spotted. This department is reached by two service entrances. One of these is in front and the other on the side. This arrangement allows for driving in at one entrance and out at the other without the necessity of backing up or turning around.

A supply of small repair parts is kept in a stockroom back of the gas and oil department. Except for carburetor and brake parts, the inventory is not large, since slower-moving parts are available at local dealers.

The work of the mechanical department has vastly increased. It is not now a question of getting business but a question of getting the work out. Starting as a public service, the mechanical department has developed into a public necessity.

To make it fair to all, no work is now taken except by appointment, each job in its turn. Through this method, customers are never disappointed and employees are not idling. Employees get more work done under this system, and more work done means more money because mechanics are paid on a commission basis.

The brake department also has become indispensable. The services include testing, adjusting, rebuilding, and relining. Wheel aligning and headlight adjusting are done in the same department. The equipment includes a brake-testing machine, wheelaligning equipment, a drum lathe, a brake riveter and countersinking machine and all small equipment needed. Brake bands, brake parts, both mechanical and hydraulic, and felt washers and grease retainers are kept on hand. The brake business amounts to \$1200 to \$1500 a month.

The personnel includes Lyle White, manager, and a working force of seven men. Three mechanics do all the motor and brake work, two work in the recapping department and two take care of lubrication, washing and gas and oil sales. White does the figuring on mechanical jobs.

The Golden Rule name is kept before the public by various means. The station is well-identified by signs. One of these, a large sign over the side service entrance, reads, Stop for Complete Service." Direct mail is used several times a year, emphasizing seasonable items. A recent mailing was to truck owners, featuring a good-will campaign for truck-tire conservation. Radio announcements featuring the various products and services are used twice a year for three-month periods.

(Continued on page 68)



utes. Accurately flares 3/16" to 1/2" O.D. soft copper, brass and aluminum tubing to

make up leakproof S.A.E. flare joints. Far easier to operate because it is equipped with new Imperial Slip-on Yoke. Ask for Imperial No. 193-F flaring tool.

TUBING CUT RIGHT helps make joints that stay tight

The Imperial No. 174-F Tube Cutter gives you just the proper cut every time. Has rollers for easy operation and special flare cut-off groove. Reamer attached. Cuts 1/8" to 3/4" O.D. tubing.

IMPERIAL DUAL-ANNEALED COPPER TUBING

Bright annealed - drawn to size from best quality copper. Uniform temper. Conveniently packaged in 25 ft. boxed coils.

THE IMPERIAL BRASS MFG. CO., 1217 W. Harrison St., Chicago 7, Ill.





Super Service

(Continued from page 66)

Newspaper advertising is used continuously. This consists of small display ads two or three times a week, each featuring a special service or product, with emphasis on seasonal needs such as fall and spring change-over. Once a month larger ads are used, featuring all services.

Unlike most signs used for such purposes and placed around indiscriminately wherever there is room, the Golden Rule signs have permanent locations. Each is placed where it can be most readily seen by those it is intended to reach. Permanent places have been chosen on the front and back of the screens used in the lubrication and washing departments and also at other strategic locations in the shop.

"Several factors have combined," says Judge Radliff, "to make our super-service station super successful. One of these is the fact that we offer one-stop service on automotive needs. Another and very important one is we keep our station looking neat and attractive. Another is the utmost convenience for parking right at the station and in all the arrangements within. Another is our

extensive but dignified publicity methods. And still another, and perhaps most influential of all, is our Golden Rule policy toward customers. We believe that the customer confidence we have developed is our greatest trade asset."

Former Dealer Promoted

The promotion of Benjamin Ourisman, former president of the Washington Automobile Dealers' Associa-

tion, to the rank of colonel, was announced Oct. 16 by Brig. Gen. W. P. Boatwright, commanding general of the Office of the Chief of Ordnance, Detroit.

As chief of the Maintenance Division of that Detroit Organization, Colonel



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Colonel Ourisman

Ourisman is responsible for determining policies and procedures for the maintenance of all combat and transport vehicles procured for the Army by the Ordnance Dept.

In addition to the reclamation and remanufacture of the Army's tank and automotive products, this division publishes all automotive maintenance manuals and directs operation of all base shops in repair and preventive maintenance work.

The two Chevrolet dealerships operated by Colonel Ouirsman before coming on duty with the Ordnance Dept. in February, 1942, accounted for such a volume of business that they were regarded as one of Chevrolet's largest retail outlets.

"POWER THIEVES"!

Wartime gasoline and wartime driving habits make efficient spark plugs more vital than ever. Sell the idea of regular spark plug inspection—point out the waste caused by dirty, worn plugs. (Getting under the hood for a plug inspection often leads to other service, too.)

RHEOSTAIS

When new spark plugs are needed, install Edisons—built to get full power out of every kind of fuel, easy to sell because they're "backed by the greatest name in clectricity."

Edison_ SPARK PLUGS

EDISON-SPLITDORF CORPORATION, WEST ORANGE, N. J.

Becomes Vice President

The appointment of T. L. Knecht as vice-president and general manager of Borg & Beck, a Chicago division of Borg-Warner, was announced recently by D. E. Gamble, president.

Knecht, a veteran of more than 20 years with Borg & Beck, will be succeeded as factory manager by J. T. Branit, formerly superintendent of the company's pump plant.

In his announcement, Gamble made known that the changes are a part of the Borg-Warner division's plans for prompt resumption of peacetime activities when the war is ended.

"Our work for the Army has inspired a new 13-in. clutch that is now in production," Gamble explained. "It is a Borg & Beck regular design and rounds out our line of clutches which in peacetime graduated from 8 to 12 in. The new clutch is for the heavier duty trucks that will be built after the war."

He added that in a recent meeting the company's board of supervisors authorized "considerable expansion" to take care of post-war demands.

Wounded Vets Can Do Many Service Shop Jobs

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Undoubtedly the soldier and sailor of this war will get a better break when he starts looking for a job than did the veterans of 1918. This applies particularly to the injured, and most of all to those men who are so unfortunate as to have lost an arm or aleg or are otherwise partly incapacitated. The government is making every effort to rehabilitate such men with physiotherapy and by providing special training and instructions. But all such well-meaning efforts will be wasted if these men are not employed when they are ready to return to civilian life. Such men, having sacrificed so much, deserve every consideration, and car dealers and independent service stations are in a fortunate position in that there are many jobs and positions in their establishments which they can offer.

Naturally, the work that the handicapped veterans can do will vary with their individual disability, and each case will have to be considered separately. However, a man does not need any hands to sell service, and, if he has a single hand, he can do clerical work, light repairs and pump gasoline. Naturally, the larger the establishment, the easier it will be to find a place for these veterans. But every shop operator and car dealer should carefully study his manpower requirements and employ as many of the wounded men as possible.

Vice Presidents Named

The board of directors of Houdry Process Corp., Wilmington, Delaware, has announced the appointment of Arthur V. Danner executive vice president, and Robert B. Cragin as vice president in charge of sales engineering and a technical adviser of the corporation. Both have been elected members of the board of directors and Danner has been made a member of the executive committee of the board.

In commenting upon the appointments, Eugene J. Houdry, president of Houdry Process Corp., said: "The complete laboratory facilities of the corporation have been dedicated to winning the war and thus Danner and Cragin, with their experience in industry and with the Petroleum Administration for War, will contribute importantly in carrying out the cor-

poration's plans.

Arthur V. Danner joins Houdry after seven years with the Socony-Oil Co., Inc., where he served as patent attorney. For two and a half years he had been lent by Socony-Vacuum to the Petroleum Administration for War where he served as Chief of the Process Section in the Refining Division.

Robert B. Cragin's last previous post was with the M. W. Kellogg Co., where he served as director of

petroleum research and later as sales engineer. For three years, he was lent to the Petroleum Administration for War where he served as assistant director of the Refining Division.

Acquires Tape Firm

Acquisition of the Mid-States Gummed Paper Co., of Chicago, Ill., one of the larger concerns in the field of gummed paper and cloth tape and gummed label manufacture, was announced Oct. 9 by Minnesota Mining and Manufacturing Co., St. Paul, Minn., through W. L. McKnight, president.

Pioneer in the field of pressuresensitive adhesives, the St. Paul concern will now also engage in the manufacture of water-activated tapes and labels.

While the purchase price was not divulged, it is understood to be in the neighborhood of \$1,000,000. The acquisition brings to Minnesota Mining and Manufacturing Co. 171,250 additional sq. ft. of plant, office and warehouse space in the three-story property occupied by Mid-States at 2515 S. Damen Avenue, Chicago, which has 270 ft. of track frontage on the Burlington railroad's right of way.

WINTE

a clean cooling system is the best

Engine Parts

Insurance

Even in the coldest weather, a clogged cooling system can cause local engine hot spots that can seriously damage or ruin both original and replacement parts. Many car owners don't know this. So if you don't tell them, you'll more than likely get the blame when the parts fail. Play safe-see that the cooling system gets cleaned first. WARNER RADIATOR CLEANER is fast, thorough and safe. Use and recommend it.

IMPORTANT

Always clean the cooling system before putting in anti-freeze. After cleaning, add WARNER COOLING SYSTEM PROTECTOR to prevent further rust and corrosion. It will also neutralize the acid condition and re-establish the inhibitive properties of anti-freeze that is re-used a second season.





A new 40-page booklet on treading and repairing tires and tubes, especially valuable now since synthetic tires and tubes are coming into wide use, has been been published by The B. F. Goodrich Co., Akron, Ohio, and is available upon request. The booklet provides a thorough discussion of the fundamentals of modern tire treading and repairing, and is wellillustrated.

Treading definitions and terms are shown in a drawing of a tire's cross section and also are described in detail in the text. Shop tools required for treading operations are listed, and the various steps in preparing the tire for the new tread, applying and vulcanizing it are then given. Similar treatment is given the subject of repairing tires and tubes, as well as valve repair and replacement,

Of particular interest are curing charts for all types of treading and repairing, giving detailed schedules for various type molds.

How to safeguard upper valve stems and valve seats against excessive accumulation of carbon, and prevent scoring due to dry cylinder walls, pistons, and rings is pictorially explained in a new booklet just released by the Amalie Division, L Sonneborn Sons, Inc., New York.

The eight-page illustrated booklet entitled, "4 Ways to Give Your Engine a Lift," discusses the engine difficulties that may be encountered when corrosion, clogging, and gum formations attack carburetors, tanks, combustion chambers, and valves. Pointing out that reboring and new pistons mean new-engine operating conditions, the booklet explains how Gas-Lube helps shorten "breaking-in" time and keeps the engine operating like a job just tuned up.

Copies of the booklet may be obtained by writing to the Amalie Division, L. Sonneborn Sons, Inc., 88 Lexington Ave., New York 16, N. Y.

Featuring 21 full-color lathe illustrations, a new catalog completely describes all South Bend Engine Lathes, Toolroom Lathes, and Precision Turret Lathes. Engine Lathes and Toolroom Lathes are shown in five sizes, ranging from 9 in. to 16 in. swing. There are two sizes of Precision Turret Lathes; ½ in. and 1 in. collet capacity respectively.

Complete specifications are listed opposite each lathe illustration, giving capacities, speeds, feeds, and dimensions. The rest of the 68 pages and 75 illustrations are devoted to details of the construction features of the lathe, lathe tools, and attachments for special classes of work.

Copies of Catalog 100-D can be obtained on request from South Bend Lathe Works, South Bend 22, Ind.

A new Simplified Catalog of Gatke Blue Ribben Grooved Brake Lining Sets, including an engineered brake adjustment chart, has just come from the press.

Listings by make, year and model of vehicle afford quick reference in ordering sets and checking prices. The profusely illustrated engineered brake adjustments in handy chart form are important aids to efficient brake adjustments with minimum loss

of time.

This catalog and chart is furnished free to motor service men and car dealers on request to the Gatke Corp. 223 N. LaSalle St., Chicago 1, Ill.





WAR BONDS

CARE WILL SAVE YOUR CAR

Branch: 1342 S. Flower St., Los Angeles 15, Cal.

A REPUTATION THAT YOU CAN SHARE

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Gatke Lining brake

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Corp., Ill.

R AGE

This year marks the thirty-sixth anniversary of AC Spark Plugs. Their reputation for quality has incar and truck owners, all over the world.



HERE WE GO TO TOKYO-BUY ANOTHER WAR BOND!

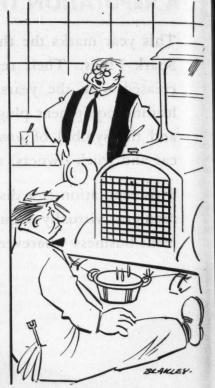
NOVEMBER, 1944

When writing to advertisers please mention Motor Age

WPB Plans to Drop 350 Out of 500 Production Orders when Nazis Fall

The WPB Task Committee, which has been working out the details of the WPB V-E Day plan, issued its first report Oct. 1. Acting WPB Chairman J. A. Krug, in announcing the report, emphasized that it was not final and subject to change. However, it does clear up some of the misconceptions which arose when WPB announced its intention of removing practically all production controls on V-E Day. In other instances, the report backtracks on statements made earlier by Krug.

The report is emphatic in pointing out that there should be no spoon feeding of the economy. No attempt should be made to curtail individual initiative in the search for and the purchase of materials and components that will remain in short supply for only a brief period. No action should be taken that might hamper private enterprise or ingenuity, either by re-



"Perhaps no one has told you, Hugo, but up-to-date shops aren't handling

radiator leaks by putting a pan under

stricting members of an industry to historical patterns of business or by preventing entry of newcomers. Except for military requirements for the war against Japan, it is expected that essential needs will by and large be met without government control, either restrictive or supporting.

The report, which has been distributed to other government agencies and to WPB industry divisions for comment and suggestions, recommends the elimination of all WPB orders with the exception of about 150, which will be greatly simplified. In all, some 500 L, M, P, E, U and R orders are on WPB books at present. Of these about 200 apply to chemicals, textiles (including leather and cordage) and forest products (including containers), in which widespread shortages are expected to continue. Only half of the orders on this group of tight materials can be revoked immediately; about 100 of which will have to be retained.

Of the other 300 orders, covering mainly metals and metal products, it is proposed to revoke 250, leaving only 50. Thus, all told, the proposal calls for revoking 350 out of 500 orders. In effect, orders controlling metal products are to be virtually eliminated.

In addition, the following propsals were also contained in the report:

1. Replacement of the present preference rating structure by a single, fully extendable, MM rating band, re-(Continued on page 78)





bus or truck quicker and easier with Puritan Hydraulic Brake Fluid. You don't have the bother checking what brand of fluid was used previously, because Puritan mixes with any or all of them. Puritan is the all-purpose Hydraulic Brake Fluid developed on a Research Fellowship at the Mellon Institute of Industrial Research.

It's made from a patented all miscible, non-gumming base. Easier on rubber than any other fluid on the market. Meets the severest requirements of viscosity, pour point, action on metals, etc. Saves on maintenance; lessens service layups.

Standardize on Puritan Hydraulic Brake Fluid. Regular grade for ordinary passenger car service. Super grade—aircraft quality for trucks and busses and heavy duty service.

Now Back in quantity production!

PURITAN COMPANY, INC. ROCHESTER 6, NEW YORK



Men Who Know Motors PREFER TOLEDO QUALITY



MANY times in the olden days the quality of steel in a man's sword saved his honor... or his life. And, steel from the Spanish city of Toledo, was especially prized by these men whose blades meant success or failure in love, liberty and happiness.

No finer steel was known then than Toledo Steel and no finer steel is known now than that which goes into Toledo automotive products. From coast to coast America's Men Who Know Motors have been banking on Toledo motor and chassis parts for over a quarter of a century. And millions of vehicle owners, using Toledo products, have proven Toledo quality. Now, when all parts must give maximum performance, it's doubly wise to insist on Toledo.

The TOLEDO

STEEL PRODUCTS COMPANY

TOLEDO, OHIO, U. S. A.

Makers of Fine Automotive and Aircraft Parts



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WPB Orders to Drop

(Continued from page 76)

served almost exclusively for direct military requirements and Lend-Lease.

2. Continuation of the AAA preference rating, which will be used as at present to break military production bottlenecks, but also for civilian emergencies of a serious nature:

3. Authorization on V-E Day for steel, copper and aluminum mills and warehouses to accept orders and make deliveries of three materials without CMP "tickets," and complete elimination of the CMP as soon as practicable thereafter. Previously, Krug had said that CMP would be continued only for the quarter in which Germany falls. Orders placed prior to V-E for CMP materials are likely to retain preferred status for a limited period.

4. A transition to the new priorities policy that will combine a minimum of paper work and reshuffling of production schedules with necessary protection of military procurement and the earliest possible achievement of free action in the civilian economy.

5. Maintenance of a full kit of tools to deal with emergencies. The com-

mittee recognizes that military cutbacks will necessarily be uneven in their impacts, producing extremely heavy reductions in demand for some materials and products and virtually no change in others. So long as this is the case, WPB must retain some allocation and scheduling controls and must maintain its contingent authority to minimize the consequences of acute shortages when they develop.

The Task Committee, in carrying out its responsibility, was instructed to eliminate rules, regulations and orders whenever and wherever feasible, on the theory that the fewer the restrictions the quicker would be reconversion and reemployment. However, in cases in which materials and components were certain to be in short supply, maintenance of conservation and allocation orders was prescribed.

Arthur H. Bunker, WPB chief of staff, told Motor Age that every effort would be made to deal with all the various industry groups as soon as it is administratively possible. Other WPB officials said that the cutbacks will be made on the most just basis the war agencies can find. The list of industries which have received first consideration are:

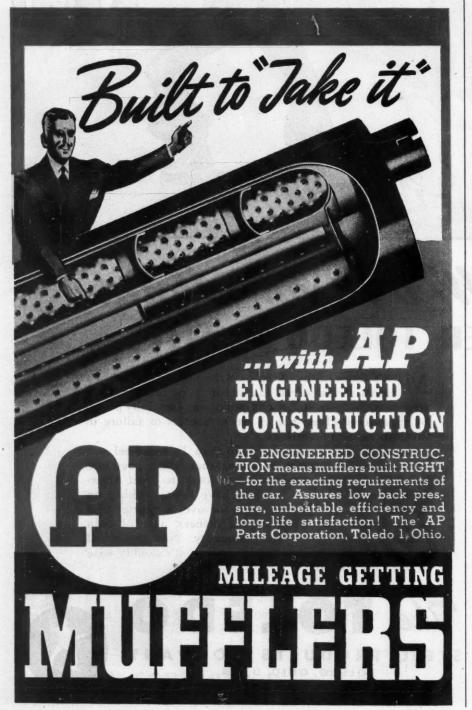
Coal-mining machinery, railroad passenger car, commercial refrigeration and air conditioning, automobile and light truck, refrigerator, washing machine, oil burner, stoker, water heater, radio, electric transmission equipment, dry cleaning and commercial laundry equipment, domestic watt hour meter, trolley coach, bus, sewing machine, vacuum cleaner, electric range, electric fan, non-electric commercial cooking, stoves, office machinery, typewriter, telephone, small distribution transformer and electrical generating equipment.

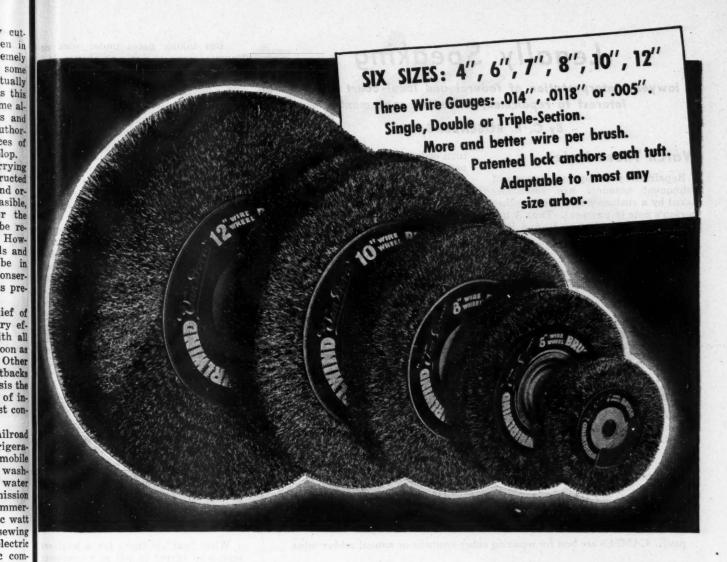
The reason the named industries were selected for first consideration in the carrying out of cutbacks is that WPB officials believe that, if these major manufacturing lines are well-started in reconversion, the rest of industry is likely to experience a smoother transition to civilian production. It was emphasized that the industries named are thought to have the most serious reconversion problems.

Heads Personnel Staff

Appointment of Chester L. Shaw as personnel director of the Warren City Manufacturing Co., subsidiary of Graham-Paige Motors, was announced recently by Harry D. Beutlich, director of industrial relations for the Warren company.

Shaw was formerly divisional manager of industrial relations at Willys-Overland for more than a year. Prior to that he served with the Crosley Corp. as assistant personnel director and as director of the employe training program.



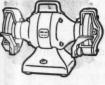


Yes, the Best Wire Brushes are Van Dorn Whirlwinds!

Industry's toughest jobs have proved it! Van Dorn Whirlwind Brushes are better, tougher, stand up longer on all high-speed operations. And remember this: Made by Van Dorn on special Van Dorn machines, Whirlwind Brushes have each tuft of wire locked in a ring of steel... separately... securely... to stay!

What's more, you can use these Whirlwind Brushes, not only with powerful Van Dorn

Bench Grinders, Portable Grinders and Sanders, but on practically all types of grinding, buffing, polishing and cleaning machines. Next time you need wire wheel brushes, order Van Dorn Whirlwinds! There's a Van Dorn Distributor near you as a ready source of information and supply on the complete Van Dorn line. The Van Dorn Electric Tool Company, 727 Joppa Road, Towson 4, Maryland.



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BENCH GRINDER







PORTABLE GRINDER

NOVEMBER, 1944

When writing to advertisers please mention Motor Age

79

Legally Speaking

A lawyer's interpretation of federal and local court decisions of interest to repairmen, presented each month

By C. R. ROSENBERG, JR.

Watch Those Notes

Repairmen pressing for payment of delinquent accounts are sometimes asked by a customer to accept another person's note in payment. Thus A has signed a note payable to B, and B in turn endorses the note and offers it in payment or part payment of his account.

Sometimes the repairman to whom such a note is tendered accepts it on the theory that "half a loaf is better than no bread." But taking notes under such circumstances is risky business. It is safe only when the repairman receiving such a note is what the law calls a "holder in due course." The original maker of the note, unless it is a forgery, has to pay the note to one who holds it "in due course."

In a recent Wisconsin case a note of this kind was negotiated shortly after the note fell due, and, when the holder attempted to enforce the note against the maker, the court ruled that the maker could set up against the holder all the "defenses" which the maker had against the person to whom he had first given the note, because the note was past its due date when the holder got it. Thus, where A makes a note to B, and B endorses it to a businessman in payment or security for his delinquent account, the businessman may experience great difficulty in collecting the note from A if the note was past its due date when B endorsed the note to the businessman.

Another objection is that, if the note is overdue, the repairman will not be able to discount it with his bank.

A practical rule: Never accept in payment of an obligation a note which is already past its due date. To do so is to invite litigation and probable loss of the money. (Hlubocky vs. Schramel, 279 North Western Reporter, 637.)

TIME-TESTED!

CAMEL Products have been the nation's choice, in peace and war, for more than 20 years.

The Perfect Patch

You can't compare any other patch with a CAMEL Patch because no other patch is made like CAMEL. Unlike ordinary tube patches, CAMELS are the right combination of raw materials blended together to make a perfect finished patch. CAMELS are best for repairing either synthetic or natural rubber tubes.

"Nothing Outruns A Camel"



Canadian inquiries should be addressed to George M. Watson Co., Ltd., 295 King Street, East, Toronto 2, Canada, the Canadian national distributor of Camel Patches.

Bad Credit

What "out" is there for a business man who agrees to sell to a customer on credit, take a down payment on account, and then discovers he has made a bad guess on the credit risk?

A Mississippi business house accepted an order on terms of \$1500 down, with notes for the balance payable in three and six months. The check given for the down payment of \$1500 was dishonored, but redeposited and paid.

The check incident caused the seller to make a new investigation of its customer. This disclosed that the customer's business was poor and that there were a number of unsatisfied judgments against him. The seller then notified the customer that, in view of these circumstances, the sale could not be made on credit but that full cash would have to be paid. The customer refused to pay cash and later brought a suit against the seller for the breach of the contract to sell to him on credit.

The Federal court ruled that under such circumstances the seller was entirely justified in refusing to go through with the credit transaction.

"A seller of goods on credit," said the court, "upon learning of his buyer's insolvency, may refuse to deliver except for cash. This right of refusal is not qualified or diminished by a payment of a part of the pur-(Continued on page 84) Factories for Gove

He Always Works With You

Service methods change with the years, juras models have changed. Widening knowledge has brought new shop practices, new tools and equipment to service improved assemblies. Your Automotive Jobber has always kept you informed of these new developments. Often he is first to try them out—to prove them better before he passes them along to you. Whether it is a new idea in a product or methods, he works with you to bring you the best in constructive service.

You can depend upon your JOBBER!

NSPA

THE COMPLETE ASSOCIATION

Devoted to maintaining and improving the Quality Standards of Service Parts, Equipment and Accessory manufacture, distribution and installation in America's 30 million automotive vehicles.



NOVEMBER, 1944

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Legally Speaking

(Continued from page 80)

chase price, nor is it affected by the terms of the credit agreed upon or the security contemplated.

"Where goods are sold on credit, it is an implied condition of the contract that the buyer shall keep his credit good; and the seller is not bound to deliver the goods if the buyer be insolvent. The fact that the buyer has given a note for the price, payable at the expiration of the credit, does not change the situa-

tion." (Rockola vs. Leopold, 98 Federal Reporter, second series, 196.)

Guarantee of Account

A businessman requiring that a prospective credit customer have the account guaranteed by a responsible party should bear in mind that the guarantee itself is not enforceable unless it meets certain requirements.

1. A guarantee by one person of the debt or obligation of another must be in writing. This is required by the Statute of Frauds.

2. The guarantee should be obtained in writing before the credit

is granted or the goods delivered to the person whose account is thus guaranteed. If the guarantee is not obtained until after the credit is granted or the goods delivered, it would appear that the merchant or other business men did not rely upon the guarantee in granting the credit.

3. There should be some legal "consideration" for the guarantee. A "consideration" in this sense means either a benefit to the guarantor or a "detriment" to the business house granting the credit. The usual "consideration" recited in such written guarantee is the granting of credit or the delivery of the merchandise by the business house to the person whose account is guaranteed.

In a recent New York case the legal "consideration" for the guarantee was the agreement of the merchant to allow the person whose account was guaranteed to pay his debt in installments. The Supreme Court of New York held that this was sufficient "consideration" for the guarantee. In other words, the granting of credit or the allowing of special terms, such as installment payments, is construed to be sufficient "detriment" to the business house to constitute a legal consideration for the guarantee. (Held Inc. vs. Levy, \$New York Supplement, second series,

No Reckless Statements

When a repairman selling parts, accessories, or other items makes a statement about the goods which he does not positively know to be true, he is just as blameworthy in the eyes of the law as if he had actually misrepresented them. Such is the substance of a recent decision by the Supreme Court of North Carolina.

Discussing what is meant by misrepresentation, the court said:

"When in a contract of sale the seller affirms that which he either knows to be false or does not know to be true, whereby the buyer sustains a loss and the seller acquires a gain, he is guilty of a fraud for which he is answerable in damages. When sued for a deceit in the sale of an article, he cannot protect himself from responsibility by saying that the buyer purchased with all faults-if it appears that the seller resorted to any contrivance or artifice to hide the defect of the article or made a false representation at the time of the sale."

The point in this case was that the seller made a statement which he did not know to be true, and that this was construed by the court to be equivalent to an actual deceit or false representation. If a repairman is not absolutely sure of the truth of the statements he makes about an article, he had better not make them. (Silver vs. Skidmore, 195 South Eastern Reporter, 775).



MORE work with less manpower...
that is the problem of the service man
today. Substituting mechanical air power
for the mechanics you haven't got is the
only possible answer... and it may be an
economical one if you use air! Compressed
air does many jobs better and cheaper,
but it calls for an adequate and efficient
air source. If your present compressor is
worn out, you can replace it easily and
quickly under Government regulations.
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Thousands of users agree that CoMaX can't be beat for quick, safe, smooth

CoMaX has reinforced backing which

permits deep seating of rivets, thus ex-

Then, too, CoMaX is noncompressible, uniform in texture, easy on drums, and is ageproof.

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NOVEMBER, 1944

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First Light-Truck Output Since 1941 Okayed by WPB

FOR the first time since the production of passenger cars was halted in January, 1942, WPB has author-

ized the building of light trucks for civilians during the first half of next year. The allocation amounts to only 20,000 vehicles, but the new vehicles will meet the most critical needs. Stocks of light trucks, built before civilian production was suspended, were exhausted months ago.

Quotas for manufacturers were set on the basis of pre-war production be by the various factories. The Chevrolet Division drew the largest allocation, namely, 6719 trucks, but Ford's was only slightly lower, 6287.

Dodge received authority to build 3259 units; International, 2457; Gen-

eral Motors Truck and Coach, 1907; Willys-Overland, 112; and Diamond T 99.

Civilian Heavy-Truck Production Set at 32,604

A TOTAL of 26,179 light-heavy and 6,425 heavy-heavy trucks for civilian use has been authorized for the first half of 1945 by the WPB. The production will be divided among 29 different manufacturers.

The greatest number will be built by International, with an allocation of 9599 light-heavies and 563 heavyheavies. White will build 5550 lightheavies and 100 heavy-heavies. GMC will produce a total of 4551 vehicles in both classifications and Mack 3828,

Parts Factories Obtain "Spot" Authorizations

WPB has authorized production of \$152,441,000 worth of civilian goods under the "spot authorization" plan for production during the coming year. About 1100 approved applications make up this total.

In the automotive field, five manufacturers have been given permission

to produce \$1,648,000 worth of replacement parts; authorizations to produce \$2,891,000 worth of maintenance equipment were granted to 18 manufacturers; and three producers of storage batteries have been given permission to turn out \$598,000 of their products.

Adequate material to cover the authorizations has already been allotted.

Premium Gas Must Have Octane Rating of 75

A WARNING has been issued by the OPA that premium gasoline sold at retail at 2 cents over the ceiling price for the regular grade must have an octane rating of not less than 75. While most gasoline sold at the premium ceiling has met this requirement, says the OPA, some stations have sold fuel that did not meet the minimum requirements.

The PWA recently reduced the maximum octane rating for civilian gasoline from 80 to 76. Therefore, premium gasoline sold at 2 cents above the ceiling for regular grade must have an octane rating between 75 and 76.

Easier Parts Controls To Follow Nazi Collapse

RELAXATION of production and distribution controls over automotive replacement parts as soon as the European phase of the war ends was held to be desirable at a recent meeting of the Automotive Wholesale In-

(Continued on Page 88)



PROTECT EVERY MOTOR NOW—WITH MARVEL MYSTERY OIL



NOT JUST ON THE MAP.

-BUT ALL OVER IT!

55 WAREHOUSES

55 Warehouse Stocks support the coast-to-coast network of Permite Jobbers

The Permite Line OR QUICK SERVICE to you - so your Permite jobber can give you the replacement parts you need when you need them - 55 warehouse stocks of Permite Parts are placed at strategic centers from coast to coast. Permite isn't merely on the map - it's literally all over it. When you use Permite Parts, you are supported by a completeness of stock and a caliber of service that only a big, national organization can give.

No one can always guarantee stocks and deliveries in these wartime days. We at Permite are, of course, turning out a large volume of work for the armed forces. Yet, under existing conditions, the supply of Permite Parts has been unusually good and Permite deliveries have been unusually fast.

Permite Parts are so well and favorably known that their use inspires extra confidence in your customers. No original equipment is superior to the Permite Part that replaces it. When you install Permite Parts you find that every service job you do helps sell the next job to the same satisfied customer.

There's a Permite jobber near you. If you do not know his name, write us today.

ALUMINUM ALLOY
PISTONS
SEMI-STEEL PISTONS
PISTON PINS
YALVES
VALVE GUIDES

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ALUMINUM INDUSTRIES, Inc., Cincinnati 25, Ohio

THERE'S A PERMITE JOBBER NEAR YOU

PERMITE

NOVEMBER, 1944

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Rules and Regulations

(Continued from Page 86)

dustry Advisory Committee. WPB officials told the gathering that production regulations on most parts could be lifted soon after the collapse of Germany.

Members of the committee agreed that L-63, which regulates suppliers' inventories, could be rescinded at any time, but believed that WPB Form 547 (the distributors' application for preference rating) should be continued as long as items are scarce. L-270, controlling distribution as

well as production, should be repealed immediately after victory in the European war, most members believed, but some felt that it should remain in force for an indefinite period.

500,000 Tons of Steel For Civilian Production

MORE than 500,000 tons of steel will be available during the fourth quarter for civilian manufacture, according to latest reports from the WPB. This is more than has been available in any one quarter

since the WPB took over the allocation of the metals under the Controlled Materials Plan.

The latest plum to fall into the lap of civilian goods manufacturers is the more than 300,000 tons of steel returned to the WPB by the Aircraft Resources Control Office and the War Department, announced by WPB Chairman J. A. Krug on Oct. 2.

Included in the 300,000 tons is a supplemental allotment of 175,000 tons made several weeks ago from these returned allotments. With the additional returned allotments and the original allotment of 220,000 tons to OCR, 520,000 tons of steel will be available to civilian goods producers in the fourth quarter.

Temporary Truck Rations Being Handled by OPA

THE procedure for obtaining temporary and non-recurring gasoline rations has been simplified for opperators of vehicles requiring certificates of war necessity. Since Oct. 16, OPA local boards have been authorized to issue such rations, rather than the district ODT offices. This fact makes it possible for all such operators to reach the proper office quickly, since there are 5500 OPA local boards as against only 142 ODT district offices.

Applications for certificates of war necessity or for permanent changes in certificate allotments will be handled by ODT district offices as in the past. Currently, the bulk of applications are for temporary allocations. Under the revised regulations, vehicle operators will return all unused or expired transport rations to their OPA boards instead of to ODT offices, as has been required in some instances in the past.

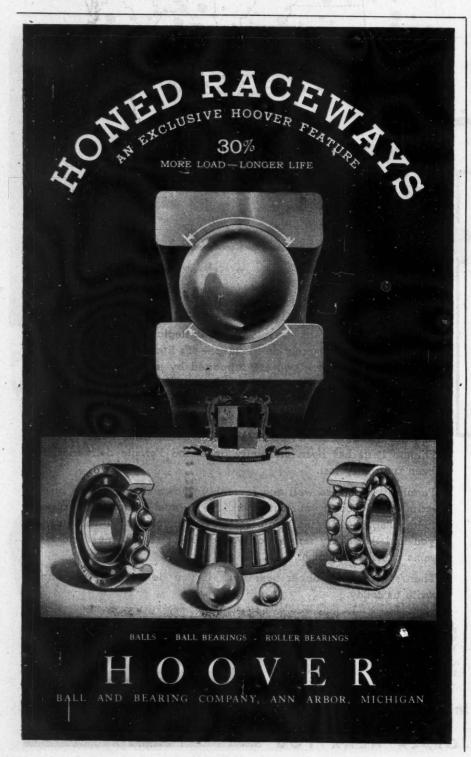
Gas Inventory Coupons Good for Ration Checks

GASOLINE inventory coupons, which were invalidated July 15, may now be exchanged by station operators for ration checks, the OPA has announced.

Originally, only 10 days were given station operators to exchange the coupons, but some dealers, the OPA has found, were for various reasons unable to make the exchange. To obtain valid ration checks for the invalidated coupons, station operator must surrender the coupons to his local rationing board, with a prescribed form and a statement of the reasons why they were not surrendered earlier.

Return of Car Ruled Sale

WHEN the purchaser of a used car returns the vehicle to the dealer as unsatisfactory and accepts another car in exchange, no sale has (Continued on Page 90)



Now it can be told!

Meet One of the Allies' Secret Weapons

THE CHEVROLET-BUILT ARMORED CAR

Instrument of Victory Extraordinary



NOVEMBER, 1944

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Rules and Regulations

(Continued from Page 88)

been made, the New York office of the OPA has ruled, explaining that this interpretation will be incorporated in an amendment to MPR 540. If no substitute car is accepted by the purchaser, return of the original car to the dealer constitutes a sale, the New York OPA continues, and the purchaser cannot accept a price in excess of the "as is" ceiling, even though he paid the dealer the warranty price. The practice of some dealers in selling cars to other dealers on consignment and then sharing in the 25 per cent mark-up for warranty sale was declared by the New York OPA office to be an evasion of MPR 540.

Recent Rulings

TIRE PRICES. Temporary increases in manufacturers' and wholesalers' price ceilings on certain rubber tires, which were to have expired Oct. 15, have been extended to Dec. 15, the OPA announces. Ordinarily, no extension would have been granted. In-

stead manufacturers would have been asked to submit cost data to show that continuation of the increases was justified. In this instance, the industry advisory committee urged a continuation of the ceilings for 60 days to enable the industry to assemble data. Further, the War Dept. urged continuation so that there would be no interference with production.

MAGNESIUM. All government controls over the use of magnesium for civilian products have been removed, the WPB has announced. Preference Order M-2-b being revoked. However, restrictions in other orders as to the quantity of an article that may be made or as to its size or type remain applicable, even if the article is made wholly or partly of magnesium.

SCHOOL BUSES. A free market in secondhand school buses and other local passenger transportation equipment was reinstated by the ODT Oct. 15. General Order ODT 35 froze all buses, street cars, trolley coaches, and trucks converted for passenger use, in the service in which they were engaged on March 17, 1943. Purchasers of vehicles affected must qualify for certificates of war necessity in order to obtain gasoline rations.

NEW CARS. The November quota of new passenger cars has been set at 3000, with a national and regional reserve of 600. These are the same figures as were set for September and October. The stockpile now totals less than 20,000 cars.

RECAP EQUIPMENT. Order L-61, which permitted dealers to extend their MRO ratings to obtain replacements of tire retreading, recapping, and repairing equipment, has been revoked. The WPB explains that supplies are now sufficient to meet most demands for equipment for civilian tires and that it is no longer necessary to employ priority ratings. Except for 8.25 x 20 and larger truck tires dealers will now place unrated orders.

TRACTORS. Control over the sale of non-critical repair parts for track-laying tractors has been relaxed by the WPB. Manufacturers of tractors who also produce repair parts are no longer required to reserve 65 per cent of such repair parts for military requirements.

OFF-HIGHWAY TIRES. Temporary retail ceiling prices for off-the-road tires made with rayon fabric, which were to have expired Oct. 15, have been extended to Dec. 15 by the OPA. The ceilings are 112½ per cent of the ceilings for similar tires made with cotton fabric.



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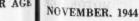
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STAMINA is one of the outstanding qualities we build interest BLUE CROWN Spark Plug. BLUE CROWNS are long on precision, efficiency and all-out performance. They have what it takes for the long haul. On the fighting fronts overseas and at home BLUE CROWNS "deliver the goods"...they stand up under fire and operate dependably where the going is toughest.

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A BLUE CROWN FOR EVERY PURPOSE IN PEACE AND WAR

BUY MORE WAR BONDS

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A DIVISION OF MOTOR MASTER PRODUCTS CORP.

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EXPORT SALES

Borg-Warner International Corp.

Cable Address "BORINTCO"

CHICAGO 4, ILLINOIS

U. S. A.

Regional Managers Shift

Major changes among regional managers of the Ford Motor Co. were announced by J. R. Davis, Director of Sales and Advertising, on Oct. 19 at the conclusion of a conference of regional managers on post-war planning.

Changes were made necessary because of a vacancy in the western region that has existed since Davis left that post to assume his present

Arthur S. Hatch, regional manager at Chicago, will go to Richmond, Cal., to become Western regional manager, replacing Davis. W. K. Edmunds, now regional manager with headquarters in Edgewater, N. J., which takes in the greater New York area, will go to Chicago, replacing Hatch, and C. J. Seyffer, now branch manager at Somerville, Mass., has been promoted to regional manager replacing

Hatch became associated with Ford in December, 1922, at the Chicago branch. In 1928 he was transferred to the Dearborn office as head of its Lincoln division, and in 1939 returned to Chicago as manager of the branch.



"Please get up, Mr. Sweeney. That isn't your repair bill. It's only a list of the parts we can't get any more."

Edmunds has a long record of service with the company at Memphis, Somerville, Chicago, and Edgewater. He joined the company in November, 1913, at Memphis as a stock clerk.

Seyffer also has a long service record. He joined the company in July, 1914, at the Long Island branch as an office worker. In 1926 he was made assistant manager at Edgewater, and in July, 1930, was promoted to manager. He also served as branch manager in Jacksonville, Fla.; Cleveland, Ohio, and Chester, Pa.

VALVOLINE . . . FIRST OF THE PENNSYLVANIA OILS



Remember the Customer NEVER WHO RAISED

He used to take his motor for granted - but look at him now! Today he KNOWS the value of topgrade motor oil. He's looking for wartime protection PLUS-and that means Valvoline, the oil that cleans

as it lubricates. Valvoline has been the first choice of careful car owners since America's first car was built. Valvoline will bring you customers and keep them coming back REGULARLY!

MOTOR OIL

COSTS MORE TO MAKE - COSTS LESS TO USE

VALVOLINE OIL COMPANY

579 East Fifth Street, Cincinnati 2, Ohio * Refinery at Butler, Pa.

General Offices: New York - Atlanta - Chicago - Detroit - Los Angeles - Vancouver - Washington, D. C.



Michael Shapiro was recently elected president of Automotive Boosters Club No. 18, Philadelphia, Pa., at a recent meeting of the club. Shapiro, with the other newly elected officers, will serve during 1945.

D. Russell Weber was named vice president, Edward Boxer, treasurer, and H. R. Clime, secretary. Directors are Cecil Langdon, Joseph A. Lawler, John T. Morris, and David Uhle.

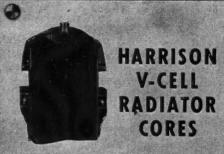
Takes New Post

H. R. (Paul) Merriken, formerly with the Standard Oil Co. of Pennsylvania, has become associated with Ralph E. McConnell, Philadelphia manufacturers' representative. Merriken is well-known among the fleet, car dealer, and repair shop outlets in the eastern Pennsylvania territory.

Finest Lubricating Oils Since 1866

WHEN YOU "WINTERIZE" CUSTOMERS' CARS

CHECK THE
CHECK THE
RADIATOR
RADIATOR
CORE, TOO!



The Harrison V-cell radiator has a reputation for long life, long wear and efficient service. As original equipment it has given satisfactory service to millions of car owners. For replacements, specify Harrison radiator cores. Give your customers the best.





Harrison radiator cores and service parts are available through independent distributors supplied through 20 conveniently located United Motors Service branch warehouses.

Shot is Fired . . . KEEP BUYING BONDS This winter—more than ever before—a car's cooling system must function efficiently. Before you put in antifreeze for a customer, make a thorough check of the radiator and cooling system.

If rust and scale are present, drain and reverse-flush. Solder outside leaks after the radiator has been drained. Inspect hose connections—fan belt—thermostat. Then check the radiator core, and make sure it is in good condition, to safeguard car performance.

If a core is damaged beyond repair, a new Harrison V-cell core is the answer. Harrison V-cell radiator cores are the wise choice of leading dealers and repair shops.

HARRISON

HARRISON RADIATOR DIVISION
GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK

AGE NOVEMBER, 1944

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When writing to advertisers please mention Motor Age

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Returns to Mack

Appointment of William P. Michell as assistant chief engineer of Mack Trucks, Inc., has been announced by L. C. Josephs, Mack vice president and chief engineer. Michell recently returned from Great Britain where he had been serving in an advisory capacity on military truck transport at the invitation of the British government.

Michell began his engineering career with the Whitlock Co. in Hartford, Conn., before going overseas as a first lieutenant in World War I. After the war, he returned to Whitlock, eventually going with Ace Motor Corp. as shop superintendent. He joined Mack in 1923 as a shop engineer and through a series of promotions became assistant to the chief engineer in 1937.

Henry A. Schuetz

Henry A. Schuetz, 47, manager of the Cincinnati branch of Ford Motor Co., died at home Oct. 5 of bronchial pneumonia after an illness of one week. He joined the Ford Co. in 1914 and assumed his Cincinnati position in 1940.

Heads Brake-Lining Group

James S. Doyle has been elected president of the Brake Lining Manufacturers Association and will direct



James S. Doyle

a nation - wide campaign actively supported by the association urging greater safety on the highways. Figures compiled over the past 10 years disclose the average number of automobile fatalities per year was greater than

the number of Americans killed in combat during the entire two years of World War I.

Doyle, who is staff manager of Johns-Manville automotive department with headquarters at New York, has been treasurer of the association for the last three years.

After attending Dartmouth College, he took post-graduate work at Columbia. Joining Johns-Manville in 1928 as sales manager of the electric railway and bus department, he was appointed automotive staff manager in 1940. He is a member of the New York Railroad Club, Dartmouth Club, and Psi Upsilon Fraternity Club.

Automotive Ad Men Meet

Attended by the largest number of members in its history, the fall meeting of the Automobile Advertisers Council was held in Cleveland, Ohio, with President R. W. Case, Jr., of Thermoid Co., presiding.

The three-day sessions were devoted to round-table discussions of market research, advertising trends, practices in the distribution of advertising material, the recent Council-sponsored survey of trade-paper readership and the Council-prepared manual on "How Automotive Wholesalers Can Advertise." Discussion leaders included T. Faxon Hall, of Walker Mfg. Co.; Herb Wertz, of Toledo Steel Products Co.; Gene Robers, of The Weatherhead Co., and W. A. Kirkpatrick, of Wilkening Manufacturing Co.

NSPA was represented at the meeting by Jack Wiggins, manager of the Washington office, and MEWA by Bill Boney, manager of the Catalog Dept.

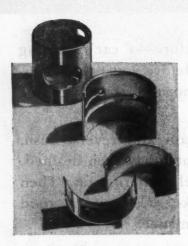
Walter T. Matthews

Walter T. Matthews, who conducted an automobile agency in Paoli, Pa., for the last 25 years, died at his home on Oct. 10 after a short illness. He was 60.

Matthews was vice-president of the Chester County Automobile Club. Active in civil affairs, he was a member of the Paoli Town Association, Paoli Fire Company, Paoli Lodge No. 290, I.O.O.F., and the First Presbyterian Church of Paoli.



Here are the Bearings you couldn't buy



BONDS are still a good BUY

The Water "Buffalos"... built by the Food Machinery Corporation... are one good reason why Tojo is going down—fast. They are also one good reason why you cannot get as many Johnson Bronze SLEEVE TYPE Bearings as you need. When the fighting job is done you will be able to buy all you want. And the improved quality will still make Johnson Bearings your best investment.

In the meantime you can serve your trade and your country by urging conservation of present equipment. A little extra care and attention will prevent breakdowns. Caution your trade to watch their oil... to keep it up to requirements . . . to keep it clean and free from impurities. Remember . . . VICTORY carries its own priority.



BRONZE HEADQUARTERS NEW CASTLE, PA.



THE COMBINATION of De Soto and Plymouth—under one sales agreement—gives the De Soto dealer a line priced to fit the pocketbooks of practically all new car buyers. There are many other "plusses" in the De Soto-Plymouth deal—the wider range of trade-ins you get; the bigger service opportunity available; the two powerful national advertising campaigns that are right now paving the way to bigger De Soto and Plymouth sales. And these are just a few of the many reasons why De Soto dealers are so optimistic about the future. There are still a few sales areas as yet unassigned. Write today to J. B. Wagstaff, General Sales Manager, De Soto Division, Chrysler Corporation, Detroit.



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AGE

Becomes Publicity Chief

Arthur Batts, president of The Carborundum Co., Niagara Falls, N. Y., announces the appointment of Francis D. Bowman as director of public relations. For many years Bowman has held the title of advertising manager of the company and in that capacity became well known in industrial advertising circles. During his long service in handling the advertising Bowman also devoted considerable of his time to public relations activities, but from now on will concentrate his entire efforts on this important work. The Advertising

Dept. has been consolidated with the Merchandising Dept. and all industrial advertising will be in charge of M. S. Ireys, director of merchandising, with Bowman continuing to direct the company's advertising in national media.

Chosen Ad Manager

Donald L. McGee has been appointed director of advertising for the Corronizing Division of Standard Steel Spring Co., Coraopolis, Pa. McGee will direct the advertising and sales promotion program for Corronizing, the new patented process for coating metals against rust.

Heads Service Activities

The appointment of Roy Utley as head of the service department of De Soto Motor Corp. is announced by J.

B. Wagstaff, gen-



Roy Utley

eral sales manager. Utley is contacting his field organization and laying plans for rebuilding the service department to its pre-war size and efficiency.

Utley comes to De Soto from two and a half years

as head of the Chrysler Corp.'s Tank Arsenal Training School. There he supervised the training of Army officers and enlisted men on repair and maintenance of medium and light tanks.

The new De Soto service head has been with Chrysler since 1933 when he was Plymouth service representative with headquarters in Philadelphia. He became regional manager in 1934 and in November, 1936, was transferred to Detroit as assistant director of service for the Chrysler division, a post he held until he got into war work at the tank arsenal

Appointed Sales Chief

In step with its expanded post-war program for building a nation-wide distributor's organization for its enlarged line of automotive protective, reconditioning and sanitary chemical products, Joe Tumbler, president of J. A. Tumbler Laboratories, Baltimore, Md., announces the appointment of W. F. Hogan as general sales manager.

Formerly with American Colloid Division of E. F. Drew & Co., Inc., New York, where he was sales manager, Automotive Department, Hogan originated the distribution of its chemical products devoted to maintenance and repair operations in the automotive, aviation and Diesel fields throughout the United States, Canada and Mexico.

Due Credit

Inadvertently, when publishing the articles, "Diagnosing Transmission Noises" which appeared in the August issue of MOTOR AGE, "Steering Diagnosis," in the September issue, and "Diagnosing Engine Noises," in the October issue, it was not indicated that these articles appeared originally in the Studebaker Shop Manual, covering their 1941 and 1942 models. The material is exceptionally complete and informative, and the editors of MOTOR AGE wish to give full credit to the Studebaker Corp. for these articles and to apologize for having failed through oversight to do so in the issues in which they appeared.





materials for production of two great new cars in volume 3 times larger than its 1941 production!

Nash has developed out of
three years of research the completed
program for the marketing of this
great volume . . . in both the low
and medium-priced fields . . . through
a limited number of selected dealers
that will guarantee more profits
per dealer.

Nash has computed and completed its plan for dealer discounts and dealer profits second to none in the industry. sales and production era
in the history of the automotive
industry with two great new cars
and a great new two-market
franchise that offer to automotive
men today the greatest opportunity
for immediate and permanent success
that will come their way in their
business lifetime.

Better get the Nash story . . . now.

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On Graham-Paige Board

L. Boyd Hatch, executive vice president and a director of Atlas Corp., N. Y., recently was elected a member of the board of directors and the executive committee of Graham-Paige Motors Corp., it was announced Oct. 25 by Joseph W. Frazer, chairman. Hatch is also a director of E. W. Bliss Co. and other corporations.

Reporting war production at an all-time peak, Raymond J. Hodgson, president of Graham-Paige Motors, announced that net earnings of the company for the nine months period ending Sept. 30 were up 25.3 per cent,

and sales had more than doubled as compared with the similar period last year.

Net profit for the first three quarters was \$1,262,920 after reserves for federal taxes and contingencies of \$1,537,000, as compared with \$1,007,434 net profit in 1943 after provision of \$1,035,500 for reserves.

The reported earnings for the first three quarters did not include those of the Warren City Manufacturing Co., Warren, Ohio, a wholly owned Graham-Paige subsidiary, which was acquired last August, Hodgson said. He also pointed out that the figures were subject to renegotiation.

Appointed Sales Chief

B. N. MacGregor, general manager Packard Electric Division, General Motors Corp., Warren, Ohio, has an-



R. J. Montgomery

nounced the appointment of R.
J. Montgomery
as general sales
manager, having
supervision over
all sales activities of the division.

Montg o mery has been associated with Packard since 1927, first as district represen-

tative and since 1933 as manager of replacement sales. In addition he has assumed the duties of Government Compliance Coordinator since our entry into the war.

In his announcement, MacGregor stated that no other changes in the existing sales organization were contemplated, either in personnel or responsibilities except to gear up to meet the requirements of reconversion and postwar periods.

Management Study Guide

A volume of decided value to the student of management problems, and in particular of time and motion questions, has been published by Ralph M. Barnes and Norma A. Englert, of the University of Iowa. The publication is the "Bibliography of Industrial Engineering and Management Literature." Barnes is professor industrial engineering and director of personnel at the university, while Miss Englert is librarian of the University's engineering library.

The bibliography, complete to Jan. 1, 1943, lists 700 books, articles and pamphlets dealing with general management problems, and 2539 publications dealing with time and motion study and related subjects. It includes publications in German and French as well as in English.

Takes Texas Territory

Young Radiator Company, designers and manufacturers of heat-transfer products for heating, cooling and air conditioning for the aircraft, automotive, marine and processing industries announces the appointment of the Rodgers Engineering Co. of Dallas as sales and engineering representative in northeast and north-central Texas

Votes Special Dividend

Directors of Stewart-Warner Corpon Oct. 25 voted the regular, semi-annual cash dividend of 25c per share on the \$5 par value common stock and a special dividend of 25c per share Both dividends are payable Dec. 1 to stock of record at the close of business Nov. 6.





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Gear Jumpers

(Continued from page 25)

the lever in position. But, when the spring is weak or the notch in the lever is worn, the ball slips out of the notch and the gears slide out of mesh."

"You mean just high gear?"

"No, the same thing holds true for every gear. That is, as far as the detent goes. But, when the gears creep out of mesh in second, or low, or reverse, the other causes are likely to be different than they would be in

"When it slips out of second, for example, look for too much clearance between the second-speed constantmesh gear and the main shaft, or too much end play of the second-speed constant-mesh gear on the main shaft. If you don't find nothin' wrong there, look at the second-speed clutch-gear teeth. They may be worn or tapered.

"Then, in first or reverse, the sliding gear may be loose on the mainshaft splines or the teeth may be worn or tapered. Besides, the mainshaft splines could be worn or distorted. The trouble might even be with the countershaft first-speed gear. That could be worn or there could be too much end play. Or the same things could be true of the reverse idler gear."

HO

Tommy's face lighted up with a look of understanding. "The trouble almost always is wear or too much end play," he said. "And the place to look for it is in the shaft or the gears involved."

"In a general way, that's right," said Pop. "Outside of poor adjustment or misalignment, the trouble is mostly wear."

"You said something about a transmission sticking in gear."

"Yeah. Poor adjustment of the remote-control adjustment can cause that, like I said. The other causes is just the reverse of what I said about

jumpin' outa gear.
"Instead of the detent-ball notches in the shift lever bein' worn or chamfered too much, there may not be enough chamfer. Then the slidin' gear, instead of bein' loose, may be too tight on the main-shaft splines. And the splines, instead of bein' worn, may be distorted, burred, or damaged in some other way."

"I hope I can remember all the different things you mentioned."

"Maybe you won't right at first but I'll see that you get a chance at some transmission work. You can learn an awful lot by readin' but, if you really want to remember how to do a job, there ain't nothin' like

doin' it a few times.
"You know," he said, glancing at his watch, "that's what gripes me about some of these big shots tellin' everybody how much better they could run the world than anybody else. Before I'd turn over the job of rulin' the world, I'd like to see a man who'd had some experience runnin' it."

"Why no one man ever ruled the world," exclaimed Tommy.
"You see what I mean?"

Stops Parts Leakage

A simple, foolproof parts-requisi-tion form that prevents "leakage" has been put in use by the Rapids Chevrolet Co., of Cedar Rapids, Ia. to charge out parts on repair orders and thus to account for all items used. The form, 4 by 6 in. has three lines at the top for the order number and date, mechanic's name, and customer's name, and four columns across for quantity, part number, part name, and price. Here's how the system works:

The mechanic lists the parts wanted on the form which is identified with the repair order. Upon handing the parts over to the mechanic, the price is extended immediately on the requisition slip by the parts manager.

The office girl then enters the items from the requisition slip on both the customer's and office copies of the repair order, before collecting from the

COLD WEATHER IS PICNIC TIME for BAD LITTLE GREMLINS



AVGID COOLING SYSTEM DAMAGE! REPAIR COOLING SYSTEM DAMAGE!

Add to your profits **SAVE TIME • SAVE PARTS**

You can definitely give faster... better service, and MAKE MORE MONEY by using these two products specifically designed and formulated for mechanics. Scientifically compounded, tested not just a few times, but proved by the years. They will make friends for you this winter.

SERCO

Permanently repairs cracked cylinder heads (even when cracked into the valve seat). Cracked cylinder walls, cracked water jackets, and leaky radiators. It cannot impair circulation and is non-injurious to metal or rubber parts. Often it will do a \$15 job for a few cents.

RUSGO

Reconditions old anti-freeze, neutralizes acid... prevents rust. Practically every customer is a prospect. It will protect your cooling system jobs. It will help you gain customer confidence. You can render a real service by recommending and selling RUSGO.

Sell a Can of Serco to Mix With Anti-Freeze as Insurance Against Loss

SERCO products are helping mechanics save many man hours of labor. If your jobber cannot supply you, write us for details.

All SERCO PRODUCTS Are Unconditionally Guaranteed

ASK YOUR

JOBBER

RI GGO

RUST



McCARROLL'S, Inc.

..OLDSMOBILE..

HENDERSON 8181

7000 EUCLID AVENUE CLEVELAND, OHIO September 15, 1944.

Mr. D. E. Ralston, Oldsmobile Division, General Motors Corpo Lansing, Michigan. Corporation,

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The other day I signed our new contract with Oldsmobile. During the same week I renegotiated the lease on our building for five years starting next January. These two incidents together with our anticipation of the early renumption of production made me our anticipation of the early renumption of production made me fully realize that we are beginning a new era in our business and in our association with Oldsmobile.

As I reflected upon our accomplishments, I felt so good about the results that I wanted to write to you because Oldsmobile's management has had a very important part in our rather umusual success. Sent has he avery important part in our rather umusual success. Our first contract with your company was signed on July 20, 1928 ixteen years ago. This span of time, of course, includes period sixteen years ago. This span of time of course, includes period of depression as well as years of prosperity but regardless of the times, we could always count on your unqualified support.

I especially want to comment on your Business Management Service.
Your men know how to forecast the amount of revenue and expenses
a deslerehip with unfailing accuracy. This is an indispensable
service, as good planning, to my mind, is the most important part
of management. I would not want to try to operate my business my
out this kind of assistance.

It is this sound leadership you provide that makes us so happy to be affiliated with your organisation and to have your franchise. What you have done and are doing has developed great confidence and high dealer morele that I know will pay big dividends as future years unfold.

Very traly yours,

D.J. M. Canall

Possident.

DIM/1w

THERE'S nothing that helps a businessman more than confidence in the organization whose products he is selling. That's one of the many reasons why Oldsmobile dealers are so satisfied with their franchises-and so successful in their operations. They know that they are associated with America's oldest motor car manufacturer-a stable, reputable, dependable company with a tradition of "square dealing." They know that Oldsmobile's personnel, both in the field and in the factory, are experienced in their jobs and trained to use that experience in helping individual dealers solve their problems.

Take this matter of "business management," for example. Oldsmobile employs a staff of men who are qualified experts, with years of practical background in this field. It's their job to help dealers set up their operational plans, to determine such things as: What revenue each department must earn, month by month, in order to make a satisfactory profit ... To what level expenses will have to be reduced, and how this can be accomplished. Oldsmobile dealers have come to rely more and more on this service, and to place more and more confidence, as Mr. McCarroll's letter points out, in the "forecasting" ability of Oldsmobile's business management staff. Many of these dealers have written in, telling of their confidence in Oldsmobile's leadership—in wartime and peacetime alike.

"You Can Always Count on Oldsmobile," Dealers All Over America Agree

HOLLAND, MICH.—"We have been in the automobile business for the past twenty years and with Oldsmobile since 1931 during which time a fine car and organization have permitted us to produce very gratifying results."

HENRY TER HAAR, HENRY TER HAAR MOTOR SALES

STERLING, COLO.—"Whatever the new obstacles may be to operating on a sound basis in the year ahead, we

know Oldsmobile will be in there 'pitching' to help us." WM. POSPICIL, BILL'S MOTOR COMPANY

SAN PEDRO, CALIF.—"May we compliment Oldsmobile on its 'Job' program which brought about our complete re-organization. The expense forecast made with the assistance of the zone personnel has been invaluable." LaRUE C. THOMAS able." LaRUE C. THOMAS, CECIL L. THOMAS & SONS

YOU CAN ALWAYS COUNT ON

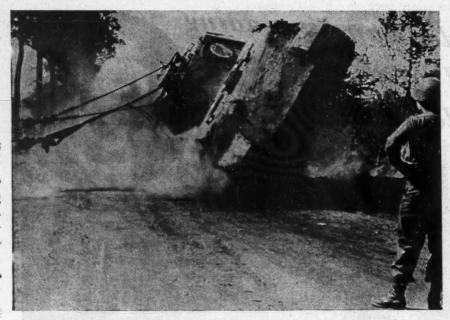
AMERICA'S OLDEST MOTOR CAR ORGANIZATION!

NOVEMBER, 1944

When writing to advertisers please mention Motor Age

147

Clearing the Road to Naziland



Members of an American engineer unit make way for advancing Yanks in Luxembourg, using heavy tow equipment to roll a Nazi Mark V tank off the road. A GI stands at right to watch the huge tank kick up the dust as it is rolled over before being towed off the road.

Treasury Procurement To Issue Surplus Lists

THE Surplus Reporter, a new publication to be issued at regular intervals by regional offices of the Procurement Division of the Treasury Dept., will make it unnecessary for automotive dealers interested in obtaining vehicles and supplies declared surplus by that division to apply to regional offices for information on available stocks. In addition to listing the stocks on hand and the area in which it is located, the Surplus Reporter will describe the general method to be used in disposing of it.

On receipt of the publication, prospective buyers will advise their regional office of their interest in the material to be sold. If the goods are to be sold through bids, the buyers will be sent proper forms. If the material is to be sold at a fixed price or through negotiation, the prospective buyers will be advised of the proper course to take.

The Surplus Reporter will be sent to firms and individuals now on the division's mailing list. Those not already on the list should apply to their nearest Procurement Division regional office for an application which, when filled out and returned, will place them on the list.

Launches Report Service

The Sales Management Committee of the Motor and Equipment Wholesalers Association has announced the start of a new Committee Reporting Service for relay of pertinent information and ideas of interest to wholesale distributors who are members of the MEWA.

The material for this new bulletin service will be gathered and studied by members of the Sales Management Committee and will be prepared and issued at regular intervals by the Association headquarters. It will deal with methods and problems of sales management, organization and promotion.

The first bulletin issued by the Committee will be titled "Basic Plans for the Sales Manager" and should be found helpful in assisting automotive wholesalers in their own sales management problems. A schedule is being worked out by this Committee, headed by J. S. Green, Herring-Wissler Co., Des Moines, Iowa, as chairman, so that worth-while ideas and suggestions on sales problems will be covered in this new reporting service.

"Know How" Manual

A new 250-page "Know-How" manual, prepared by Thompson Products, Inc., Cleveland, and aimed at helping thousands of inexperienced men and women who are doing wartime automotive maintenance work, is now being distributed to the trades through Thompson Products jobbers.

The "Know-How" manual takes the place of the company's larger and more technical Repair & Tune-up Manual for the duration. Primarily, it is a bench manual, which gives short-cut procedures for tearing down

When voiting to originalists

an reassembling the parts of an engine or chassis.

Profusely illustrated, the text is spotted with "quickies" in bold-face type, giving the gist of an operation for the more experienced mechanic. For the novice, the "quickies" are amplified by more detailed instructions in smaller type.

tions in smaller type.

Contents of the engine section cover the cylinder block, crankshaft, flywheel, camshaft, timing gears, oil pump, pistons, valves, water pump, carburetor, fuel pump, distributor, clutch, and engine specifications. An electrical section deals with starters, generators, etc., and chassis procedures include the transmission, universal joint, rear axle, steering, wheel aligning, front suspension, and brakes.

Elected Vice-President

S. A. Crosby, president of the Sterling Tool Products Co., well-known Chicago manufacturer of portable sanding machines, has announced that at a recent meeting of the board of directors, J. A. Proven, general sales manager, was elected to the position of vice-president.

In his new capacity, Proven will be closely associated with Crosby in the formulation of company post-war policies. He will also continue to head up and be responsible for policies relating to sales and advertising.

Joining Sterling Tool Products Co. about a year ago, Proven immediately attracted widespread comment in the trade by his organization and development of Sterling's post-war distribution and selling plans.

H. Parke Thornton

H. Parke Thornton, 48, vice president and controller of the White Motor Co., died today at Cleveland Clinic Hospital, after an illness of two weeks.

Thornton was prominent in the accounting field as a member of the advisory board and former vice president of the Controllers Institute of America and a member of the Advisory Committee on Government Questionnaires, U. S. Bureau of the Budget. He was also a member of the Committee on Federal Taxation of the Cleveland Chamber of Commerce.

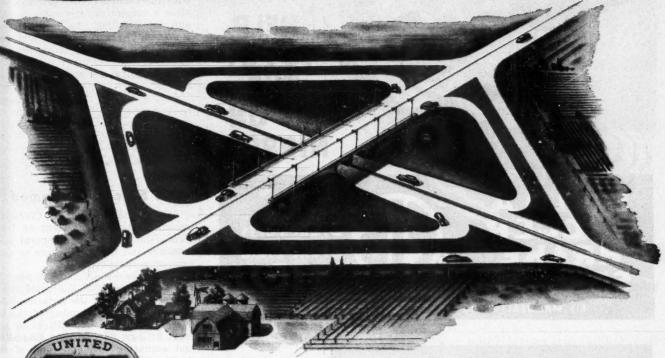
Avery Elected Secretary

Willis F. Avery, assistant secretary of The B. F. Goodrich Co. since 1936, was elected secretary of the company at a meeting of the board of directors, it is announced by John L. Collyer, B. F. Goodrich president. Avery succeeds the late Shelby M. Jett, secretary since 1927, who died Aug. 9.

The company's patent and legal departments will be under Avery's direction. He has been with B. F. Goodrich since 1924.

NO

Mow is the time to build for the Future



Your Foremost Parts Line for Automotive Service

DELCO Batteries

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AC Fuel Pumps, Gauges and Speedometers INLITE Brake Lining DELCO Radio Parts HYATT Roller Bearings DELCO Auto Radios HARRISON Heaters DELCO Home Radios

NEW DEPARTURE Ball Bearings

HARRISON Thermostats
DELCO Shock Absorbers

GUIDE Lamps

DELCO-REMY Starting, Lighting and Ignition

KLAXON Horns

HARRISON Radiators

DELCO Hydraulic Brakes

TIE UP WITH A UNITED MOTORS FRANCHISE FOR SERVICE LEADERSHIP

The new era of transportation is on its way...new highways, new cars, new opportunities for service dealers.

And the time to lay the foundation for *leadership* in service is *right now*. For, when you establish yourself as a United Motors Service outlet, you have what it takes to build and expand your business for years to come.

United Motors Service franchise brings you leading original-equipment parts and products—the cream of the crop in quality and carowner acceptance.

United Motors Service franchise brings you specially-planned programs for each line—worked out by men who know the service business and know what "clicks."

United Motors Service franchise brings you the support of national advertising in leading magazines—selling car owners on you and your service.

United Motors Service franchise brings you latest service information and service methods—keeps you up to the minute on any developments the future may bring in service procedure.

See your independent United Motors distributor for further information on United Motors lines—and get set now for the future.

BUY WAR BONDS AND KEEP THEM

UNITED MOTORS SERVICE

GENERAL MOTORS BUILDING

DETROIT 2, MICHIGAN





100%
With
10%
Buy
War
Bonds

Be

Poag Joins Agency

Emerson J. Poag has joined Ross Roy, Inc., Detroit advertising agency, as vice president, according to an announcement by Roee Roy, president. Poag recently resigned as assistant general sales manager in charge of advertising at Dodge Division, Chrysler Corp.

Poag entered the advertising field with the Campbell-Ewald Co. in 1920 after a successful experience in retail automobile selling. In 1925, he joined Buick as market-research and merchandising manager, later becoming assistant sales manager in charge of all advertising and merchandising activities.

During Poag's 12 years at Dodge, he had charge of all passenger-car and truck advertising. He has developed and directed many of the automotive industry's most successful advertising and merchandising programs.

Sales Executives Named

The Weatherhead Co., Cleveland, announces the appointment of L. J. Henderson as assistant general sales manager and Gene P. Robers as sales promotion manager.

Henderson joined the company in 1936, and since 1938 has acted as assistant manager of the Aviation Sales Division. He is a member of the Industry Advisory Committee on aircraft fittings, flexible hose assemblies and actuating cylinders and of the SAE aviation committee.

Robers, a director of the Industrial Marketers of Cleveland and the Automotive Advertisers Council, came to Weatherhead in 1942, and has directed the company's advertising activities since that time.

Announcement also is made of the relocation of the company's West Coast sales office from 6039 Wilshire Blvd., Los Angeles, to 1736 Standard Avenue, Glendale, where a branch Weatherhead plant is located.

Adds to Sales Staff

P. R. Dawson, Chicago Division manager for Tung-Sol Lamp Works of Newark, N. J., announces the addition of two men who will cover the automotive and radio jobbing trade.

"Al" W. Arnold, a new man to the field, hails from Texas. He will cover metropolitan Chicago and surrounding sections of northern Illinois and southern Wisconsin.

The second man is Maj. Z. V. "Tommy" Thompson, returning to Tung-Sol's Chicago office after noteworthy service with the Army Air Corps.

Major Thompson was commanding officer of the 81st Air Base Group (Special) until it was dissolved by reorganization in August, 1942. His latest assignment was Air Base Inspector at Chico Army Base, Chico Calif.

Trouble-Free Repairs demand SURE-RESULT SOLDERS

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- "For the want of a nail a battle was lost." You know the story. Well, solder is like that. A mighty important item in many auto repair operations, but once in a while not given the importance it deserves.
- Here's the answer: Kester Cored Solders-scientifically made in just the right proportion, with the flux right in the solder, so flux and solder can be applied in one quick, easy
- And the connection formed by Kester Cored Solders? Well, the connection is permanent, which means trouble free. Yes, Kester-Soldered connections resist shock vibrations, bending, twisting, expansion and contraction.
- So don't risk repair jobs going sour just because of the wrong solder. Standardize on Kester Acid-Core Solder. You'll be proud of the neat clean jobs it does on oil and gas lines, water connections and all spots that develop cracks and loose joints. You'll like the sure, speedy way it applies. Order from your jobber.

A BUY WAR BONDS A

KESTER SOLDER COMPANY 4242 Wrightwood Ave., Chicago 39, Illinois



AUTOMOTIVE USE



Fitzgerald Gaskets

Modern motors put exceptionally heavy burdens on gaskets. For maximum performance, it is now more important than ever that gaskets do a thorough job of tight sealing.

The materials, design and workmanship in Fitzgerald Gaskets are your guarantee of customer satisfaction. And selling these gaskets is a sure way to extra profit.

Contact your Fitzgerald jobber for service.



The Fitzgerald Manufacturing Company, Torrington, Conn. Branches, Chicago and Los Angeles—Canadian FITZGER-ALD Limited, Toronto.











SUPERSOCKETS

J. H. WILLIAMS & CO.

"The Wrench People"

BUFFALO 7, N. Y.



Sells Automotive Business

Southern Wholesalers, Inc., Washington, D. C., have sold their automotive department to a new corporation. Southern Distributors, Inc. The new firm has rented the first floor of the Southern Wholesalers' Building and will continue business there.

The management of the new company consists of experienced businessmen. H. E. Preston, the secretary, will be in active charge.

Southern Wholesalers, Inc., will continue in the appliance business.

Executives Step Up

At a meeting of the board of directors of the Aro Equipment Corp., Bryan, Ohio, J. P. Johnson, vicepresident, was elected executive vicepresident, and J. E. Allen, assistant to the president, was elected vicepresident, it was announced by J. C. Markey, president. Johnson is in charge of Aro's Cleveland plant.

Army-Navy "E" Awards

Continental Rubber Works, Erie, Pa. (Third Star).

The De Vilbiss Co., Toledo, Ohio (Second Star).

CLASSIFIED ADVERTISEMENTS

WANTED: MANUFACTURER'S AGENT. WANTED: MANUFACTURER'S AGENT.
FAST SELLING LINE OF WELL
ESTABLISHED AUTOMOTIVE CHEMICALS WITH FOURTEEN YEAR RECORD OF SATISFACTION TO BOTH JOBBERS AND CONSUMERS. BACKED BY NATIONAL ADVERTISING AND CLOSE COOPERATION OF MANUFAC-TURER. SEVERAL AGENTS FOR MID-DLE WEST AND EAST ARE DESIRED. PLEASE STATE NAMES OF PRODUCTS PLEASE STATE NAMES OF PRODUCTS
YOU NOW REPRESENT IN YOUR
REPLY. YOUR CORRESPONDENCE
WILL BE CONSIDERED CONFIDENTIAL AND WILL BE USED ONLY TO DETERMINE YOUR QUALIFICATIONS, AND FOR ARRANGING INTERVIEW IN YOUR OWN CITY. REPLY IN DETAIL TO BOX NUMBER 19, MOTOR AGE, CHESTNUT & 56TH STREETS, PHILA-DELPHIA 39, PA.

TOOLS FOR SALE-Universal Tools 10 Piece Set: Brake Spring Pilers, Con-Rod Socket, CEETEE Pilers, Carburetor Jet Wrench, Brake Adjusting Wrench, Long Valve Bar, Diagonal Cutters, Needle Nose Pliers, Screwdriver, & Vice Grips. \$19.85. Remit with order. Other tools you need now? We'll Ship COD Promptly. Dealers Tool Supply, 1527 Grand Ave., Kansas



STATEMENT OF THE OWNERSHIP. AGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

County of Philadelphia | 88.

Before me, a notary public in and for the State and county aforesaid, personally appeared Jos. S. Hildreth, who, having been duly swon according to law, deposes and says that he is the Business Manager of the MOTOR AGE and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulation, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher. Chilton Company, Chestnut and 56th Sts., Philadelphia 39, Pa.; Editor, W. K. Toboldt, Route 1, Chester Spring, Pa.; Managing Editor, J. Edward Ford, Drexel Court, Drexel Hill, Pa.; Business Manager, Jos. S. Hildreth, York Lynne Manor Apt., City Lie and Berwick Rd., Overbrook, Philadelphia 31, Pa.

and Berwick Rd., Overbrook, Philadelphia 31, Pa.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Chilton Company, Chestnut and 56th Sts. Philadelphia 39, Pa.

Holders of more than 1% of the capital stock

given.) Chilton Company, Chestnut and 56th Sts. Philadelphia 39, Pa.

Holders of more than 1% of the capital stock outstanding of Chilton Company: C. A. Musselman, 260 Sycamore Ave., Merion Station, Pa. J. S. Hildreth, York Lynne Manor Apts., City Line and Berwick Road, Overbrook, Philadelphia, Pa.; Charlotte M. Terhune, 160 E. 48th St. New York, N. Y.; John Blair Moffett, Fisher Rd., Bryn Mawr, Pa.: C. S. Banr, 69-11 Yellowstone Blvd., Forest Hills, L. I., N. Y.; J. H. Van Deventer, 270 West End Ave., New York, N. Y.: Mary M. Acton, 260 Sycamore Ave., Merion Station, Pa.; Mabel M. Musselman, 260 Sycamore Ave., Merion Station, Pa.; Mabel M. Musselman, 250 Sycamore Ave., Merion Station, Pa.; Dorothy F. Johnson, 1115 Fifth Ave., New York, N. Y.; Ethel G. Breen, Trustee u/Yof Charles W. Anderson, Old Greenwich, Company, P. O. Box 704 Church Street Anner, New York, N. Y.; Ethel G. Breen, Trustee u/Yof Charles W. Anderson, Old Greenwich, Compencicaries: Robert C. Anderson, Percival E. Anderson, Charles W. Anderson, Jr., Annie L. Clark; John Blair Moffett, 1608 Walnut St. Philadelphia, Pa.—Agent for J. Howard Pew, J. N. Pew, Jr., Mabel P. Myrin, Mary Ethe Pew; Elizabeth J. Bailey and Ellwood B. Chapman, Trustees Estate of James Artman, Decensed, 930 Real Estate Trust Building, Philadelphia, Pa.—Beneficiaries: Franklin Artman, Vera Watters, Alvin O. Artman, Elizabeth J. Artman, Marion A. Pratt, George H. Pratt, by assignment, Edwin Moll, by assignment; Freerick S. Sly, 149-40 35th Ave., Flushing, L. I. N. Y.

3. That the known bondholders, mortgages, and other security holders owning or helding.

3. That the known bondholders, mortgages, and other security holders owning or holding per cent or more of total amount of bonds mortgages, or other securities are: (If there are none, so state.) None.

mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, it cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstance and conditions under which stockholders and security holders who do not appear upon the book of the company as trustees, hold stock and securities in a capacity other than that of a bost fide owner; and this affiant has no reason to believe that any other person, association, of corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each

so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed through the mails or otherwise, to paid subscribers during the twelve months preceding the day shown above is

(This information is required from daily publications only.)

JOS. 8. HILDRETH, Pres. & Business Manager.

Sworn to and subscribed before me this 200 day of September, 1944.

BESSIE F. HAMMOND (My commission expires January 7, 1945.

JIRED

"He said he's saved a lot of money by using

WRAPLOCK HOSE CLAMPS"





shoes, the exclusive* sawtoothed lugs of Campbell Lug-Reinforced Tire Chains
assure positive traction. These radically different
chains make possible safe starts and stops, without
dangerous, rubber-chewing slip and skid. Tough,
hard-wearing steel, and one-piece construction, mean
increased chain mileage. International Chain &
Mfg. Co., York, Pennsylvania.

Like the calks on Dobbin's



MOND , 1948.

R AGE



WITH

MASTER RECAMS

MASTER RECAMS are individually deals are der all late model ears; easily installed without removing pistons. The arefitable way to Stop Piston Slap, Oil Pumping and Motor Noise.



50° EACH

REGULAR DISCOUNTS TO JOBBERS AND DEALERS

WHERRY ENGINEERING COMPANY 3227-29 Morganford Rd., ST. LOUIS 16, MO.

WARTIME LUBRICATION

. . . YOU NEED AND CAN STILL GET

- * DOOR-EASE STAINLESS STICK LUBRICANT DRIPLESS OIL
- * RU GLYDE
 RUBBER LUBRICANT
 from leading Jobbers

AMERICAN GREASE STICK CO.



Plans Post-War Expansion

A \$2,500,000 post-war expansion program for Packard Electric Division, General Motors Corp., which is expected to boost the division's employment level approximately 91 per cent above pre-war and 35 per cent over the present mark was announced last month by B. N. MacGregor, general manager of the division.

The proposed expansion of facilities is part of General Motors' overall plan to spend \$500,000,000 for modernization and enlarging of its properties in connection with reconversion to peacetime production, MacGregor said.

Highlights of the proposed program

The expenditude of \$1,500,000 for rearrangement of plant facilities and new equipment.

The expenditure of \$1,000,000 for new buildings, including a new boiler house and four-story building to house personnel offices, general offices, and an enlarged cafeteria.

Increase of employment requirements to approximately 5200.

Increase in capacity of wire and bulk cable manufacturing facilities by 43 per cent, of assembly departments about 45 per cent, and of motor manufacturing departments about 50 per cent.

Appointed Sales Aide

William G. Lambe, former director of spray gun sales at the Crown Spray Gun plant of the Kellogg Division of American Brake Shoe Co., located in Los Angeles, has been appointed an assistant general sales manager of the Kellogg Division. He will be in charge of spray-equipment sales of that Division and will make his headquarters at the home office at Rochester, N. Y.

J. E. Lennon, has been appointed district manager of the Middle Atlantic territory of the Kellogg Division of American Brake Shoe Co. Previously he had charge of the Ohio territory with headquarters in Columbus. With headquarters in Philadelphia, he will cover eastern Pennsylvania, southern New Jersey, Delaware, Maryland, Virginia, and the District of Columbia.



The LUBAID Company, Milwaukee 1, Wis.



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WAR BONDS NOW!

Keep Your present HALL EQUIP-MENT performing like new. Service Parts and Factory Reconditioning IMMEDIATELY AVAILABLE. Ask your Jobber or write the Factory for Information.

THE HALL MANUFACTURING CO.



EXTRA Profits in Painting and Touch-up with

NALCO Infra-Red Ray Drying Units

Nalco Infra-Red Ray Drying Equipment cuts drying or baking time to a fraction . . . cuts painting cost and produces a more uniform finish. It eliminates the need for overnight drying on synthetics . . . en-

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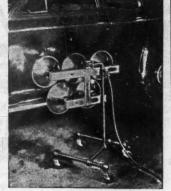
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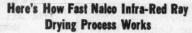
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AGE



ables you to deliver a paint job in a matter of hours instead of days.



- Dry 4 coats of surfacer without losing time between coats in 10 to 15 minutes.
- Dry putty glaze in 15 minutes.
- In 10 to 15 minutes after applying Infra-Red Rays start polishing color coats.
- Polish synthetic enamel job on a complete fender within 21 minutes after applying.

Nalco Portable Adjustable 5-Light Unit illustrated.



NORTH AMERICAN ELECTRIC LAMP CO.

1071 Tyler Street

St. Louis 6, Missouri



SNUGL

FAD-A-WAY AUTOMOTIVE

WHEEL BALANCE WEIGHTS

TRUCKS . BUSES . PASS. CARS



PAT. NO.

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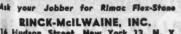
FACTORY

MID-WESTERN AUTO PARTS
KOKOMO INDIANA

WEST COAST DISTRIBUTOR 910 WEST PICO BLVD. LOS ANGELES 15, CALIF.

The abrasive that gets action in confined spaces.

Works around corners. Can be bent and twisted at sharp angles without breaking. Most efficient dresser for all electrical contacts, commutators, etc. Cuts and smooths hardest metals, including tungsten and platinum-iridium points. Very thin—won't cause widening of spark plug gap. No short circuit. Size 41/4"x3/8". List 15c each.





Flex-Stone





Easily Cleaning And Descaling Radiators Speedily, Safely!

In order to prevent grease, loose rust, dirt and scale from building up in radiators and water jackets thorough, periodical cleaning is necessary. Restricted circulation, clogged tubes, impaired cooling inevitably result unless this is done.

But cleaning any cooling system, including coils of car heaters, can be an easy job when you use

OAKITE PENETRANT

Merely introduce the recommended solution in system, run engine for short period, then drain and flush.

Where lime scale deposits have already built up, use Oakite Compound No. 32 to quickly, safely remove deposits and restore normal heat transfer. For complete details, write for FREE 36-page Oakite Automotive Manual today!

OAKITE PRODUCTS, INC., 24C Thames Street, NEW YORK 6, N.Y.
Technical Service Representatives in All Principal Cities of the United States
and Canada



NECKTIE DISPLAY got to do with

got to do with SCREW DRIVERS?



You are a "soft touch" at a display of gay cravats. Who isn't?... But if neckties waited in concealed drawers to be sold, many less would find their way into customers' hands. Such IMPULSE BUYING is just as impor-

tant in selling Vaco Screw Drivers, with their gleaming Amberyl handles. Nearly all of the 173 different numbers are interestingly displayed on attractive, colorful sales boards. They look good; and they are good. When a fellow sees 'em, he just naturally BUYS 'EM.

Let Us Tell You More!

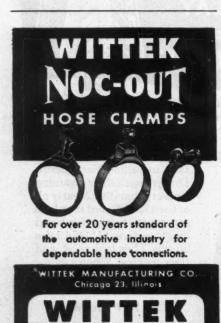
VACO PRODUCTS CO.

315 E. ONTARIO ST. • CHICAGO II, ILL.
Canadian Warehouse: 560 KING STREET, WEST • TORONTO 2, ONTARIO



JARO FARRY

"I didn't want his money-I just tried to take his copy of TRUE Magazine."



Chosen Sales Chief

Ross R. Dunn has been appointed general sales manager of the Hastings Mfg. Co. and the Casite Corp., according to Aben Johnson, president. Prior to his present appointment, Ross was active in special sales assignments for the company, with which he has been associated for approximately four years. He succeeds G. Dewey Hon, who has resigned to go into business.

Adds to Sales Staff

E. G. Jacobs, general manager of the L. J. Miley Co., Inc., manufacturers of Miley brake materials, clutch lacings, brake cylinders, fan belts, etc., announces the appointment of A. L. Morf as sales representative for territory comprising Chicago North Side and southern Wisconsin.

Jacobs also announces that in the future Miley will be represented in Minnesota, North Dakota, South Dakota and western Wisconsin by John J. Junkin of Minneapolis, who has handled automotive supplies in that area for many years. John J. (Jack) Junkin, Jr., who has recently returned from service in the U.S. Navy, will assist his dad in handling the territory.

William A. Baker

William A. Baker, an executive in the sales department of the Hudson Motor Car Co. for 11 years, died recently in Detroit at the age of 51. Before Pearl Harbor he had been national used-car manager, and during the early part of the war was on a special war assignment in the purchasing department. At the time of his death he was a special representative in the general sales department.

Named Sales Aide

According to Fred H. Stout, vice-president in charge of sales, Heller Brothers Co., Newark, N. J., Lloyd C. Smith has just been promoted to assistant domestic sales manager.

Before joining the Heller organization at the beginning of this year, Smith was the sales representative of the Nicholson File Co., Providence,



The cost and time required to install a genuine Timken Bearing are exactly the same as any tapered roller bearing.

THE TIMKEN ROLLER BEARING COMPANY CANTON, OHIO



BUFFALQ PRESSED STEEL CO., INC., YOUNGSTOWN, OHIO

REWOUND ARMATURES

FOR ALL POPULAR MAKE IMMEDIATE DELIVERY ALSO RECONDITIONED USED ARMATURES AND PARTS

We stock only genuine used parts. All are thoroughly tested and cleaned with the meat medern methods and equipment. Each part our-ries our money-back guarantee.

Write for price list B

HASCO PRODUCTS, INC. 131 Park Ave., Lyndhurst, New Jersey

LUBRICATING EQUIPMENT

plays an important part in

WAR PROGRAM

providing fast, thorough, and economical lution of cars, trucks, buses and other midles so important in the transportation of terials and men engaged in war production, ky your nearest jebber, or write us for det this equipment.

LINCOLN ENGINEERING COMPANY
General Offices, St. Louis, Mo.



SIECTRICALLY HEAT TREATED SPRINGS

COIL ACTION REPLACEMENT PARTS

COMPLETE SPRING SUSPENSION SERVICE

MOOG INDUSTRIES, INC., ST. LOUIS 14, MO.
ST. LOUIS SPRING CO. MOOB COIL ACTION PARTS CO.
MOOG PISTON KING COMPANY



MA-1144 BATTERIES

built for REPLACEMENT SERVICE GLOBE-UNION INC., MILWAUKEE, WIS

WAR CARGOES WALK ASHORE * * *

...one more demonstration of America's engineering skill!

Across the reef-locked harbor, an amazing vehicle moves toward shore.

VM, OHID

CARS

All are a meet art ear-

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It's a swimming, walking boxcar! Aboard it are vital supplies, medical stores. Rations and ammunition. Jeeps, perhaps. Or fully equipped troops.

Reaching land, the strange craft turns into a fighter! It claws its way on to the shore, doubles its speed and punches through to its objective.

Yes, Yankee ingenuity is not only producing the best for our men . . . it's seeing that the best gets through to them.

Borg-Warner is today a very large manufacturer of amphibian tractors. Its Ingersoll Steel and Disc Division designed and built the latest version and contributed many refinements and improvements to the entire amphibian program.

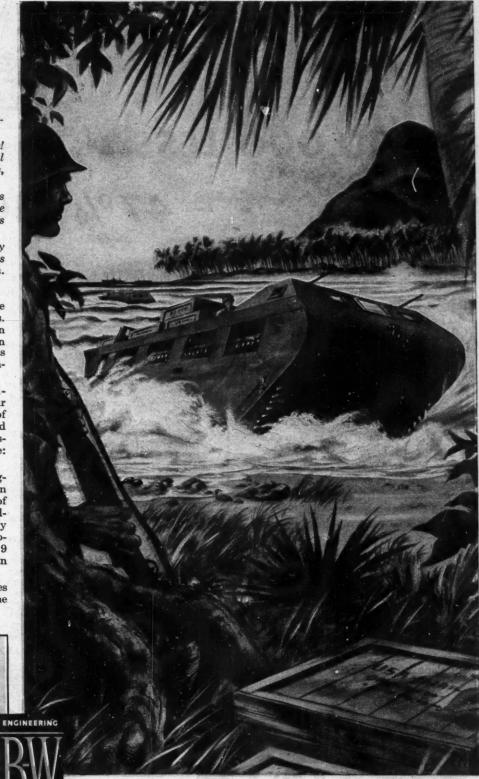
To the making of these "Am-Tracks" and more than 100 other war items, Borg-Warner brings years of experience in design, engineering and production. And to each of these assignments it applies a basic principle: "design it better—make it better."

By holding true to this ideal Borg-Warner has gained acceptance for an even greater and more varied list of essential peacetime products...products that are serving almost every American every day. In the automotive industry alone, for example, 9 out of 10 makes of motor cars contain essential Borg-Warner parts.

Today the Borg-Warner companies work to one goal . . . to speed the close of conflict.

Partners with the automotive industry from the start, Borg-Warner supplies these and other essential parts...

TRANSMISSIONS • TRANSFER GEARS
OVERDRIVES • SYNCHRONIZERS • CLUTCHES
CLUTCH SPRINGS • UNIVERSAL JOINTS
AND DRIVE SHAFTS • FLUID COUPLINGS
CARBURETORS • RADIATORS
TAPERED WHEEL DISCS

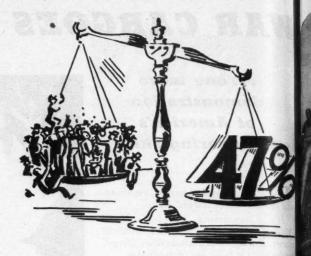


BORG-WARNER

Peacetime makers of essential operating parts for the automotive, aviation, marine and farm implement industries, and of Norge home appliances... these units which form the Borg-Warner Corporation are today devoted exclusively to the needs of war: borg & beck • borg-warner international • borg-warner service parts • b-w superchargers, inc. • calumet steel • Detroit gear aircraft parts • detroit vapor stove • ingersoll steel & disc • Long • marbon • marvel-schebler carbureter • Mechanics universal joint • morse chain • norge • norge machine products • pesco products • rockford clutch • spring division • warner automotive parts • warner gear

NOVEMBER, 1944

When writing to advertisers please mention Motor Age



4,000,000 LESS

-47% MORE!

Government figures have it that the farm population today is smaller by 4,000,000 than it was in 1918. But — our farmers produce 47% more! The progressive farmers who read FARM JOURNAL—and there are more than $2\frac{1}{2}$ millions of them—are just naturally among the leaders in up-to-date farming methods that make possible such production records.

These farmers use all the latest kinds of equipment-and, along with the records, they make money which buys the best of household necessities and conveniences. You'll find good furnishings, radios, washing machines, and all the rest, in their homes-as well as modern equipment on their farms. There's no comparable market anywhere. FARM JOURNAL influences the selections of farm people as no other magazine can. That's why you ought to know the things FARM JOURNAL people prefer-it pays to stock and display them.

Make the facts work for you. Write—and let us tell you how many FARM JOURNAL subscribers live in your own county. The FARM JOURNAL has anywhere from half-a-million to a million-and-a-half more subscribers than any other national or sectional farm magazine. In two counties out of three it leads Life, Collier's and The Saturday Evening Post.

These are the products in your line advertised in current issues of the FARM JOURNAL.

A. C. SPARK PLUGS & **FUEL PUMPS** ALCOA ALUMINUM ALLIS-CHALMERS MFG. CO. ARMCO STEEL AUTO-LITE SPARK PLUGS **BORG-WARNER PRODUCTS** BRIGGS & STRATTON **GASOLINE ENGINES** BUICK J. I. CASE EQUIPMENT CASITE CATERPILLAR DIESEL TRACTORS CHAMPION SPARK PLUGS CHEVROLET CHEVROLET TRUCKS CHRYSLER CONSOLIDATED VIII TEE AIRCRAFT

JOHN DEERE FARM EQUIPMENT **DELCO BATTERIES** DODGE DODGE TRUCKS ETHYL EXIDE BATTERIES FIRESTONE TIRES FISHER BODIES **FORD-FERGUSON TRACTORS** FORD TRUCKS GENERAL ELECTRIC G. M. DIESEL G. M. TRUCKS GOODRICH TIRES **GOODYEAR TIRES** GRAHAM-PAIGE HARLEY-DAVIDSON MOTORCYCLES INTERNATIONAL HARVESTER MOBILGAS & MOBILOIL

OLIVER FARM EQUIPMENT PENNZOIL PHILCO PRODUCTS **PLYMOUTH** POLAROID DAY GLASSES RCA PRODUCTS REPUBLIC STEEL RIO MOTOR CAR CO. SANI-FLUSH RADIATOR CLEANER STUDEBAKER TEXACO PRODUCTS U. S. RUBBER TIRES U. S. STEEL WESTINGHOUSE PRODUCTS WILLARD STORAGE BATTERIES WILLYS ZENITH RADIOS

Of the
FIRST FOUR
General Magazines
only ONE
covers the rural market





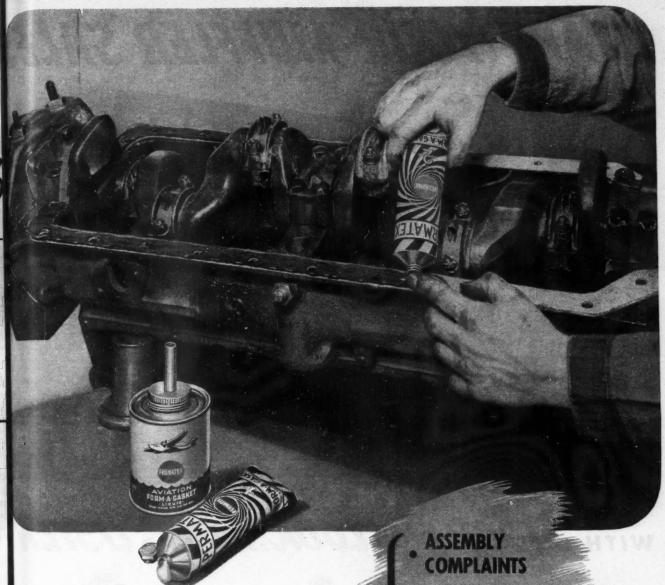
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INSURANCE AGAINST

Why not make sure that all assemblies are leakproof and pressure tight?

No oil leaks . . . No water seepage . . . No compression losses. Form-A-Gasket holds tight against gasoline, kerosene, lubricating oil, grease, fuel oil, cold or hot water, salt water and anti-freeze.

Keep the "come backs" away from your door . . . Use Permatex Form-A-Gasket!

Form-A-Gasket No. 1 is a paste that dries and sets hard.

Form-A-Gasket No. 2 is a paste that dries slowly and remains pliable.

Aviation Form-A-Gasket is a heavy liquid hat sets quickly but does not dry.

- OIL LEAKS
 - COMPRESSION
- LOSS
- · WATER SEEPAGE
- CORROSION
- . HEAD SEIZURE

PERMATEX COMPANY, INC. BROOKLYN 29, NEW YORK, U. S. A.

VEMBER 1044

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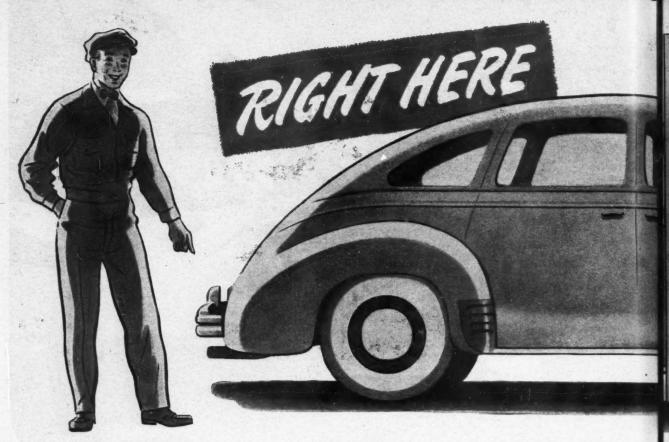
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When writing to advertisers please mention Motor Age

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TOR AGE, Vol. LXIII, No. 12. Published monthly by Chilton Co., Chestnut & 56th Sts., Phila. 39, Pa. Entered as Second-Class Matter December 27, 1935, at the Post Offiliadelphia, Pa.; Under the Act of Congress of March 3, 1879. In case of Non-Delivery Return Postage Guaranteed. Subscription price: United States, Mexico, United States, and all Latin-American countries, \$2.00 per year. Canadian and foreign, \$3.00 per year; single copies, 25 cents.

START YOUR MUFFLER SALES



WITH STOOP LOOK ... AND LISTEN



Nearly always the tail pipe goes

first. So whenever a car comes on

the driveway or service floor—stoop

down in back where the tail pipe

extends out beneath the bumper.

Look at the end of the tail pipe. If it's full of rust holes—battered and ragged—chances are the muffler is rusty, leaky and battered, too, or well on its way.

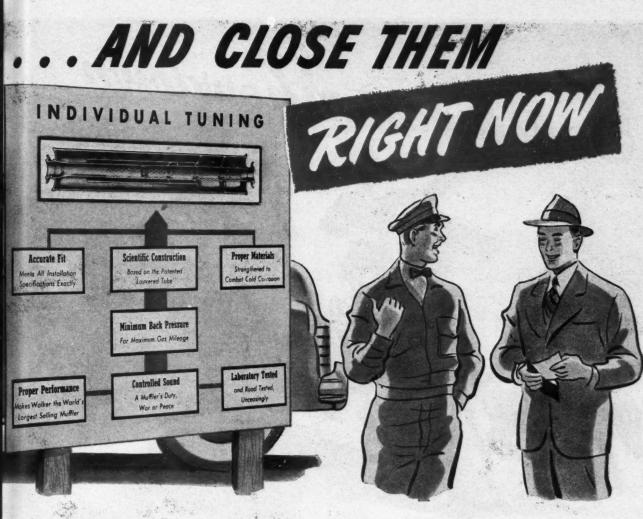


Then listen while the driver "kist the accelerator a few times. If muffler is rusted out, the noise rattles will tell you you're read start selling another Walker Siles



SAVE YOUR SILENCER CARTONS FOR THE PAPER SALVAGE DRIVE





WITH "INDIVIDUAL TUNING"

• Start your muffler sales with a Stoop and a Look at the end of every tail pipe. It's the one quick clue to leaky, worn-out mufflers. And when you Listen, as the driver "guns" the engine, the exhaust noise will tell you when you've found a customer.

Start selling, right now. All car owners don't realize the danger of a leaky muffler—or the fact that a worn-out muffler wastes their precious gasoline. But when you tell them about the safety and improved performance they'll get from an "Individually Tuned" Walker Silencer, you'll sell more mufflers. Walker "Individually Tuned" Silencers are built

around the famous patented "Louvered Tube" and scientifically engineered in every detail. Proper materials... the proper gauges of these materials... the different types of shells... and the internal constructions are all integrated to control every phase of exhaust sound for each individual make and model of car. And Walker Silencers are corrosion balanced which means that all parts, both inside and out, meet definite endurance requirements, even under severe wartime driving conditions.

Stoop...Look...and Listen and "Individual Tuning" mean easier and quicker Silencer sales.

WALKER MANUFACTURING COMPANY OF WISCONSIN . RACINE, WISCONSIN

Also Makers of Walker Jacks and Electric Lifts

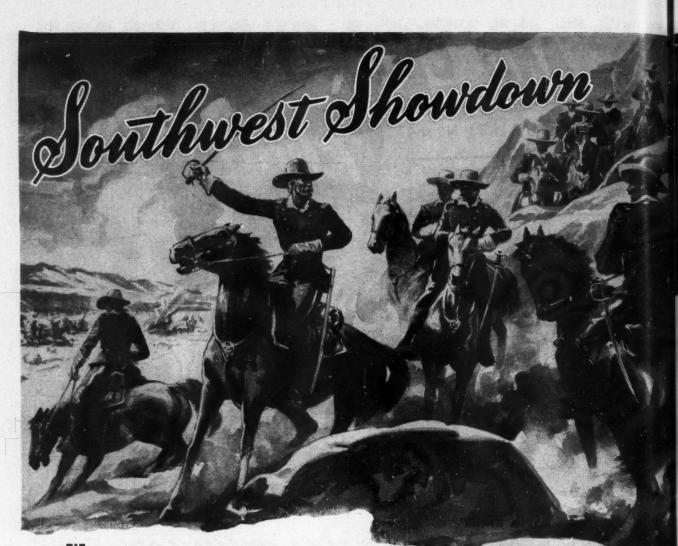
WALKER HAS "IT" A ART PERCHANCE REQUIREMENTS OF EACH MAKE AND MODEL OF CALL TORK

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WE annexed Texas in 1845. Conflicting territorial claims of Mexico and the United States immediately came to a "showdown." The Mexican war resulted, followed by the Treaty of Guadalupe Hidalgo. In return for a vast territory of over 522,000 square miles, we gave Mexico \$15,000,000 cash and paid \$3,250,000 owed by Mexico to U.S. citizens. The states of California, Nevada, Utah, Arizona, New Mexico and parts of Colorado and Wyoming were carved from this territory. It was a trade of vital importance to the development of our country.

You'll make an IMPORTANT TRADE also, when you trade your ailing fuel pumps to vour Jobber for-



Factory Tested



climb with the AIRTEX Line"

Your profits FUEL PUMPS

AIRTEX AUTOMOTIVE CORPORATION, FAIRFIELD, ILL.

Pre-Sold to bring you SALES LEADERSHIP



Only DELCO Batteries Give You All These Sales Advantages

- 1. A complete line—for every make and model car.
- Original-equipment leadership—supplied in more than 45 per cent of all new cars sold for five years before the war.
- Nationally advertised—to keep car owners reminded of Delco battery dependability, long life, sure starting power.
- 4. "A General Motors Value"—associated with other great General Motors products used and respected throughout the nation.

WAR BONDS SAVE LIVES

DELCO BATTERIES

Dealers who sell Delco batteries are in the best possible position to build and maintain sales leadership in years to

That's because Delco batteries are presold.

They are known and respected as the original-equipment battery in leading makes of cars. They are nationally advertised. They are accepted as a wise replacement choice for sure starting and long battery life.

These factors work together to give you an important "edge" in the days of tough competition that lie ahead. When you sell Delco batteries, you sell the leader.

Delco-Remy

DIVISION, GENERAL MOTORS CORPORATION



Delco batteries are distributed through United Motors Service distributors under the direction of United Motors Service, General Motors Building, Detroit 2, Michigan.

WHEREVER WHEELS TURN OR PROBELLERS SPIN

with

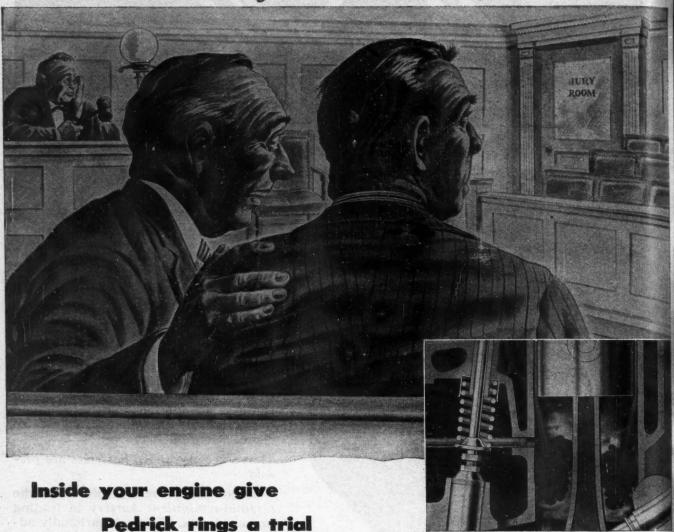
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Miles

It's what goes on INSIDE that counts



In making a decision on piston rings, accuracy of tension is highly-important evidence. If the ring presses too hard, it forces out the film of oil separating ring and cylinder. Excessive wear results. If the pressure is not sufficient, there will be "blow-by." This leakage from the combustion chamber past the piston rings eats oil off the cylinder wall and destroys lubrication. Excessive wear again results, with power loss as well.

Pedrick's exclusive and patented Heat-Shaping process provides the most accurate tension possible . . . properly distributed around the entire circumference of the ring. Pressure variation in Pedricks always has been well below commercially acceptable tolerances . . . and it has permanence, lasting the life of the installation.

These qualities in Pedrick Engineered Sets of Piston Rings mean top engine reconditioning jobs that assure longer, trouble-free service, and greater customer satisfaction. Use Pedrick Engineered Sets in your next jobs and you'll get a favorable customer verdict.

WILKENING MANUFACTURING Co., Philadelphia 42, Pa. In Canada: Wilkening Manufacturing Co. (Canada), Ltd., Toronto.

yearn)

precisioneered PISTON RINGS

FOR PEACE AS WELL AS WAR



BALANCED BRAKES HAVE WHAT-IT-TAKES

Perched on the platform of a special crane, movie-cameramen are whisked about the set . . . high, for angle-shots; near, for close-ups. Balance and quiet are the essence of these cranes. Automotive brakes, too, need quiet and balance . . . in materials, application, and brake-action. Get this triple balance by

specifying Grey-Rock materials and Grey-Rock engineering methods, which





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AGE

BALANCED BRAKSETS · BLOCKS CLUTCH FACINGS . FAN BELTS . HOSE ESSENTIAL PRODUCTS FOR ESSENTIAL TRANSPORTATION

Raybestos-Manhattan, Inc., MANHEIM, PA.

embrace N. S. C. standards.

See Your Grey-Rock Jobber

UNITED STATES ASBESTOS DIVISION of

THE STORY of Samu*

Reading Time: 1 minute, 20 seconds



Sam learned salesmanship from the ground up . . . selling shoes. It taught him a lot about human nature, too. That was what put him "on his toes" and caught the eye of a customer who was a local automobile dealer.



Sam's deft way of closing sales won him a job selling automobiles. Five busy, fruitful years and ambitious Sam got his chance at management of another dealership in a nearby city.



Within a year his ability to operate the business successfully earned him a partnership in still another town. Sam quickly made good at it. Time passed, and his bank account grew. But his thoughts still dwelt constantly on larger fields.



A Sam had set his mind on having a dealership of his own. Before long he and a former employer became a Dodge-Plymouth dealer. That was in 1932. Since 1937, when his partner retired, Sam has been sole owner.

SAM'S success has been duplicated many times among the men selling and servicing Chrysler Corporation products. His story is a good example of competitive enterprise at work . . . giving men of energy and initiative the chance to progress as far as their beliefs, desires and industriousness can take them.

CHRYSLER CORPORATION

PLYMOUTH • DODGE • DE SOTO • CHRYSLER • DODGE Job-Rated TRUCKS



Of course, Sam isn't his real name. But the facts of this typical success story can be substantiated in every detail by records in the file of the Chrysler Corporation.

JOIN THE ATTACK - BUY MORE WAR BONDS



7ake GOOD CARE OF YOUR

FREEZ-O-JECTOR

This Instrument Made
Anti-Freeze Testing
Accurate and
Easy for You!



TREAT YOURS KINDLY

— THEY'RE NOT TOO

PLENTIFUL

DEPENDABLE "FREEZE PROTECTION"

SINCE 1908

BUY MORE WAR BONDS

E. EDELMANN & CO. CHICAGO 47, ILLINOIS

ACE



Save Vitally Needed

Food Supplies

A transport truck loaded with highly perishable vegetables breaks an axle. It's late at night, but a delay until morning means the spoilage of a precious cargo. A call goes out to a nearby Automotive Wholesaler for Emergency Service. It's after closing hours, but when actual emergencies occur, the Automotive Wholesaler, like the Druggist, is on call! The axle is delivered...the cargo is saved.

"Emergency Service with us is routine", reports the M.E.W.A. Wholesaler who tells this story. "Hardly a Sunday passes, and many are the nights", he says, "that we get emergency calls for parts and supplies from bus and transport companies whose vehicles have broken down on the highways."

For Emergency Service and the indispensable day to day service of parts supply and machine shop service, America is depending upon Automotive Wholesalers...and they have not been found wanting!

* * *

Remember the story of the Seven League Boots? How they gave the wearer the ability to take steps seven leagues long? Just a story, but it helps to visualize a real life story... the tremendous steps which your Automotive Wholesaler takes for you in order that you be provided with what you need, when you need it! This is one of a series depicting how these services have been and are being utilized by Army, Navy, War Industries and the Automotive Service Industry to speed Victory. A BOOKLET DETAILING THE VITAL SERVICES BEING RENDERED TO THE NATION BY THE AUTOMOTIVE WHOLESALER will gladly be sent you upon request to The MOTOR AND EQUIPMENT WHOLESALERS ASSOCIATION, 309 WEST JACKSON BOULEVARD, CHICAGO 6, ILLINOIS.

Buy With Confidence Where You See This Insign

Buy More War Bonds



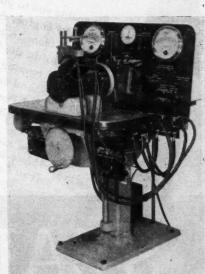


And we mean—POWER PLUS! Motors of Weidenhoff test benches do more than expected of them. Especially the rugged motor of the Model 501 test bench—the granddaddy of all test benches. Compare its power with others.

Here's a husky 7½ horsepower motor with a two-speed gear transmission that will handle all types of generators brought into the shop—big or little, high or low speed.

A Weidenhoff test bench—and there are several models from which to choose—always will come up to your fullest expectations.

Tell us your wants and we'll put you in touch with your nearest Weidenhoff Franchised Distributor.



MODEL 50



ENGINE ANALYZERS . BATTERY CHARGERS . MAGNETO TESTERS

JOSEPH WEIDENHOFF, INC. CHICAGO 24, ILLINOIS

TEST BENCHES . ELECTRICAL TESTING AND SERVICE EQUIPMENT

NOVEMBER, 1944

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26 basic designs are needed

for the perfect combination in every engine To enable you to put the correct ring in the correct groove of every piston To enable you to put the correct ring in the correct groove of every piston in every engine, Sealed Power Individually Engineered Ring Sets are selected from 26 basic designs. Each set contains rings specifically engiselected from 20 paste designs. Each set contains rings specifically engine neered to do the best possible job in a particular engine. neered to do the best possible job in a particular engine. Sealed Fower has been refining these sets over five years—has been producing rings for the possible and control of the possible and control car, truck and engine manufacturers 33 years. For best results, re-power with Sealed Power motor parts. Sealed Power Corporation, Muskegon, ADIVIDUALLY

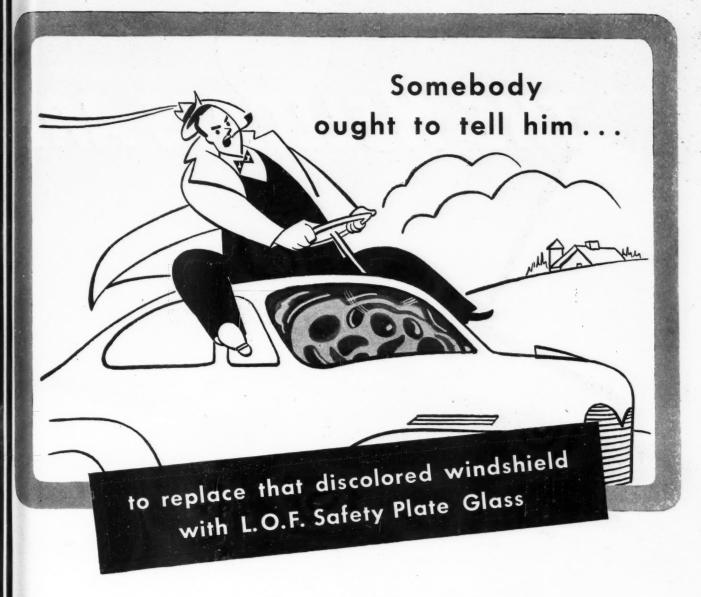
Michigan and Windsor, Ontario. Piston Rings, Pistons, Cylinder Sleeves, Piston Pins, Valves, Water Pumps, Bolts, Bushings, Tie Rods,

BUY MORE WAR BONDS! Front End Parts.



SEALED POWER PISTON RINGS

BEST IN NEW CARS! BEST IN OLD CARS!



The cartoonist has an idea here. At least it would be safer than squinting through a cracked or discolored windshield the way so many drivers are doing these days.

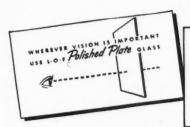
Thousands of cars, trucks and buses today are definitely over-age. Their owners are prospects for new glass—in windshields and windows as well.

When they come to your shop, suggest replacement with genuine Libbey Owens Ford Hi-Test Safety Plate Glass. This top quality safety glass consists of two panes of plate glass—carefully ground and polished for maximum

freedom from annoying optical distortionsbetween which is a clear, tough plastic.

Your L-O-F distributor will help you check your stock for an ample assortment of the most frequently used sizes and shapes. Or, if you send your glazing work out, ask him for the name of a shop that uses genuine L-O-F Hi-Test Safety Plate Glass.

Show your customers that you do quality work—and back up that claim by calling their attention to the fact that you install quality glass. Libbey Owens Ford Glass Co., 48114 Nicholas Building, Toledo 3, Ohio.





LIBBEY · OWENS · FORD

a Great Name in GLASS

AGE



THE HELLCATS ARE



BUILDS THE HELLCAT

FON THE PROVIL



THE Army calls them 76-mm.
Gun Motor Carriages—designation M-18. But to Buick men who designed and built them, in cooperation with Army Ordnance—and to Tank Destroyer Command forces who fight in them—they're Hellcats.

The name fits.

They are tank-killers with the pace of a panther and the lethal strike of the king cobra.

They're so fast they run rings aroundanything but their brothers, and they master obstacles that stop other vehicles cold.

They can split an enemy tank at several miles—and thanks to springing born of Buick's work on your car, they can romp down roads at passenger car speeds.

And now they're on the prowl.

It has been twenty-odd months since we started work on these sluggers as answers to the vaunted Tiger tank. Twenty-odd months of designing, building, testing, perfecting.

More than a year ago they went into production, and several months ago we knew they were on their way, in quantities, to undisclosed battlefields.

They have shown what they can do there. They've added their force to the Great Effort—and because of them, American men have had benefit of a harder-hitting weapon against tanks, pill-boxes, strong points and machinegun nests.

We're mighty glad that's so. Not just because this is a Buick baby. But because it's a good American weapon, built in our way, for use of our own kind.

More power to it, say we—and to those gallant men in uniform for whom we sweated it out!

WHAT IS THE "HELLCAT"?

The Hellcat is a 76-mm. Gun Motor Carriage bearing the Army designation, Model M-18. With 55 mph speed, maximum maneuverability, high fire power, and all-steel, center-guided tracks, it can smash tanks at several miles.

Designed and built by Buick in cooperation with the Ordnance Department, it has proved superior to latest versions of the German Tiger tank in actual battle and is 30 mph faster. Special Buick-designed suspension, including knee-action principles, enables the Hellcat to fight running battles when necessary. It masters obstacles that stop other vehicles, fords water traps and streams and is almost as easy to run as an automobile.

Ordered on January 28, 1943 after demonstration of pilot models, the Hellcat has been in regular production since July, 1943. All allies have asked to be supplied with it.

YOU LEND A HAND WHEN YOU LEND YOUR DOLLARS * INVEST IN MORE WAR BONDS

Buick will be glad to furnish, without cost, a full-color reprint of this advertisement to those interested in this important new weapon. Write to Buick Motor Division, Flint 2, Michigan.

BUICK DIVISION OF GENERAL MOTORS

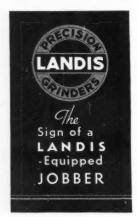
Every Sunday Afternoon - GENERAL MOTORS SYMPHONY OF THE AIR - NBC Network



HOW TO MAKE MONEY FROM CRANKSHAFT REGRINDING WITHOUT EXTRA MANPOWER



Take These Steps



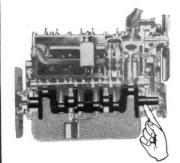
1. Get acquainted with your nearest Landis-equipped jobber. He may offer an exchange service for the commoner types. If you do not know where he is located, we will be glad to tell you.

Here is how you can stretch your manpower and handle more of those profitable motor overhaul jobs. In your vicinity there is a jobber equipped with a precision Landis crankshaft regrinder. He can solve the crankshaft problem by restoring original factory accuracy and tolerances.



2. Survey your market. Cars and trucks represent the most important prospects. However, crankshaft regrinding will prolong life and improve performance of any internal combustion engine. The market is large and growing.

Crankshaft regrinding is of vital importance today to keep our transportation equipment in shape and keep it running. The market is there. If you sell engine overhauls you can develop a profitable business in repair parts and labor for the complete job. It will pay you to get acquainted with your Landis-equipped jobber today.



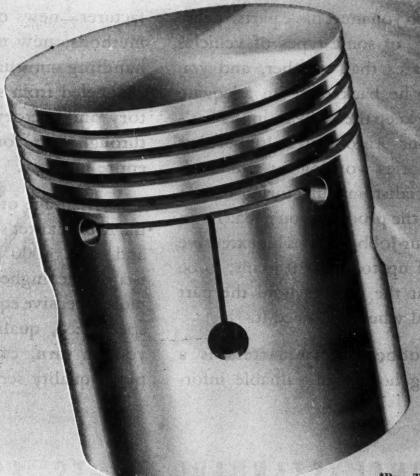
3. Sell crankshaft regrind jobs today. Every engine in need of a complete overhaul is a prime prospect for a crankshaft regrind job. You can sell factory accuracy in regrinding at a time when parts are unavailable.

LANDIS TOOL CO. . WAYNESBORO, PA.

Product of ALCOA aluminum

Lo-Ex*

PISTONS



*Reg. Trademar

ALCOA



ALUMINUM

NOVEMBER, 1944

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He has 963 Working

There are out-of-date cars and trucks for which you must have parts. There are more of some types of vehicles in one area than another, and you have to be backed by an adequate stock to keep them operating. That's why your Automotive Jobber has 963 factories working for you. Each is a specialist, manufacturing one or more of the products you need. From them your Jobber draws his extensive stock of up to 100,000 items, to be sure that the shelves hold the part you need when you need it.

Your Jobber's headquarters is a "clearing house" of valuable infor-

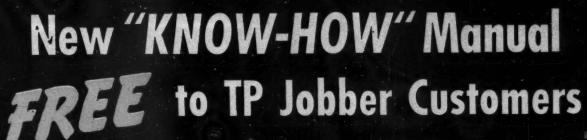
mation between you and the manufacturer—news of improved service methods, new needs, guidance in handling unusual service jobs, is channeled from service shop to factory and factory to service shop, through him, for the benefit of the entire industry.

This is an age of specialization, and the Aftermarket's 963 manufacturers and some 5,000 Jobbers are specialists of the highest order, using the most extensive equipment devoted to specialized, quality service so that you, in turn, can provide a complete, quality service in your shop.

NATIONAL STANDARD PARTS ASSOCIATION

PARTS • TOOLS • EQUIPMENT • SUPPLIES • ACCESSORIES

35th Floor, Willoughby Tower Building • Chicago 3, Illinois



Shucks, I dan't need no book to tell me how to do my stuff.

Oh, yeah & Listen! The most experienced mechanic can find plenty in this book to make jobs easier and his work better.

THIS remarkable book has been brought out as a most practical solution to the serious problem of repairing and maintaining our country's automotive equipment in war time.

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It is primarily written for the thousands of new recruits now in automotive service—the men, and women—who have had limited experience in their new work. Yet expert veteran mechanics will find invaluable information crammed into its pages.

Each section covering engine, power transmission, carburetor, pumps, steering, brakes, chassis, etc., etc., is complete in itself with numerous operations detailed and illustrated. Instructions tell not only how to take out and replace units (a clutch for example) but what to do with the unit when it is on the bench.

Note: This special purpose book is a temporary replacement for the annual 1800 page T.P. Repair and Maintenance Monual, which will again be evallable after the war when regular production of car models and engines is resumed.

Put Your Free Copy of the Know-How Manual

No Work in Your Shop as Soon as Possible!

A Bench Manual for the Automotive Mechanics who must "Keep 'Em Rolling' on Farm and Highway.

The ABC's of Basic Maintenance for Engine and Chassis.

Over 300 Pages.
Profusely Illustrated.
Covers Over 800 Different Operations.



FOR THE WARTING MUTONO

Get it from your Mompson Products Jobber

Ausco has built Williams of Jacks



When writing to advertisers please mention Motor Age

year after year for 22 years -

Now the Battle-Tested

AUSCO Post-War Hydraulics GREATEST OF THEM ALL:

Forerunner of a complete new line of Mechanical and Hydraulic Jacks!

● A LIMITED NUMBER of these Ausco Jacks with the post-war performance features are available NOW due to easing war requirements. Insofar as military requirements permit these Battle Tested Ausco Hydraulics, with their many advanced, post-war features, are ready now to aid in keeping America rolling. See your Ausco jobber today. AUTO SPECIALTIES MFG. CO., St. Joseph, Michigan; Windsor, Ont., Canada.



FOLLOWING IS A PARTIAL LIST OF WAR MATERIALS AUSCO IS HELPING TO PRODUCE Ordinance Ammunition Steel Castings & Trench Mortor Bambs & Camplete Tracks for Tonks and Combat Vehicles & Hydraulic and Mechanical Jacks

AGE

Sees Jobs in Car Service

Returning servicemen will find an "untapped job bonanza" in the sales and servicing branches of the postwar automobile industry, it was predicted last month by Joseph W. Frazer, chairman of Graham-Paige Motors Corp.

"From the service and maintenance viewpoint," he said, "thousands of veterans will possess expert technical knowledge acquired in handling and servicing every type of motorized military vehicle. Many of these men entered the service directly from high

school or college and consequently will not have pre-war jobs awaiting them when discharged."

Frazer pointed out that today the industry needs 100,000 mechanics to meet minimum repair needs on the civilian front despite the fact that the average American motorist is driving less than 30 miles per week.

"What will the requirements be," Frazer asked, "when restrictions are removed and the public's pent-up urge to travel reaches the boiling point?"

Another branch of service and maintenance which Frazer believes will "blossom" after the war is the

service station. "This group has suffered the highest mortality rate in the industry," he said. "Before the war there was a service station on virtually every corner, now we are lucky if we can find one on each highway."

Acquires Machine Line

The Sheldon Machine Company, Inc., Chicago, builders of Sheldon Precision Lathes and Sheldon Arbor Presses, announce the acquistion of the Vernon line of machine tools. This line includes the Vernon horizontal milling machines, vertical milling machines and jig borers, 12 in. back-geared shapers and universal tool and cutter grinders heretofore built and sold by the Machinery Manufacturing Co. of Los Angeles, Cal. All manufacturing of these machine tools has been transferred to the Sheldon plant in Chicago where production will soon start to permit deliveries shortly after the first of the vear.

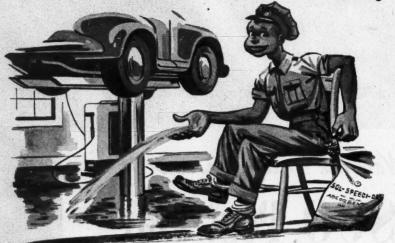
Jobber Opens Branch

The A. & P. Auto Parts Co., operated by Louis Shor at Davenport, Ia., will open a branch at East Moline, Ill., Nov. 15. The branch, located at 909 15th Ave., will be conducted along the same lines as the Davenport store. The company handles a full line of nationally advertised automotive parts.

Made District Manager

J. W. Ackerman has been appointed district sales manager of the New York and Boston territories of American Chain & Cable Co., Inc., covering welded and weldless chains, and Weed tire chains. Ackerman, whose head-quarters will be at 230 Park Avenue, New York 17, N. Y., has been with the company since 1922.





HE'S talking about greasy floors, greasy racks, greasy pits... all the 101 spots in a shop or garage that become caked and smeared with grease. He's talking about 'ungreasing' them with SOL-SPEEDI-DRI! It's a remarkable absorbent that soaks up oil and grease just as a blotter soaks up ink. No scrubbing required. Just spread SOL-SPEEDI-DRI around all working areas. It licks old grease-deposits, too . . . draws grease out of wood, concrete, and metal floors.

Here's another grand idea: Toss your oily wrenches and tools into a box of SOL-SPEEDI-DRI; leave them there a little while; and then lift them out . . . all clean and free from oil! Sign-up this uncomplaining cleaner that does big jobs better, and faster, and cleaner. Write us — or ask your jobber for a generous. FREE SAMPLE.

SUPPLIERS: East — Refiners Lubricating Co., New York 1, New York.

Midwest & South — Waverly Petroleum Products Co., Philadelphia 6, Pa.

West Coast — Waverly Petroleum Products Co., Russ Bldg., San Francisco 4, Calif.



Double Time-Saver!

Save Time 2 Ways by Installing Original Equipment Quality Inlite Brake Lining



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1. Inlite Gaes on faster and shortens the time of the original installation.
2. Inlite comes into normal operation at ance and aliminates time-wasting readjustment call-backs

DEPEND ON INLITE FOR POSITIVE PEDAL PRESSURE

Just Right for Both Men and Women Drivers

A GENERAL MOTORS PRODUCT





A United Motors Line Available Everywhere Through United Motors Service Distributors

BRAKE

INLAND MANUFACTURING DIVISION, GENERAL MOTORS CORPORATION, DAYTON, OHIO



WHAT INLAND IS MAKING FOR VICTORY

Inland Products for Victory include Carbines, Tank Tracks, Gun Sights, Helmet Liners, Extinguisher Horns, and Rubber, Synthetic Rubber and Metal Parts for Tanks, Aircraft, Submarine Chasers, Torpedo Boats, Artillery Lighters and Landing Craft. LET'S ALL BACK THE ATTACK WITH WAR BONDS

NOVEMBER, 1944

When writing to advertisers please mention Motor Age

101



You men in the automotive industry who have seen the years of boom and depression and boom again . . .

You who have seen men and cars and companies go and others come . . .

You who have watched not once, but twice and three times, a car and a company of men rise overnight and grow and flash across the sky and become leaders of the automotive industry . . .

You know what we mean when we say . . . "Now it's NASH!"

Nash has made its factory layouts, completed its designs and plans, placed its orders for tools and dies and



Solving your problems of RUBBING SURFACES

RICTION is developed when two surfaces are rubbed together. Friction lights a match... and it's friction that operates your clutches and brakes. In the great S. K. Wellman laboratories we are engaged in continuous study of powder metallurgy, to improve friction qualities of Velvetouch all-metal clutch facings and brake linings... to bring you dependable friction materials engineered to your exact specifications.

Specify Velvetouch replacement clutch facings, clutch plate assemblies and brake linings for your heavy duty buses and trucks.

THE S. K. WELLMAN COMPANY



Interesting Facts About FRICTION

If two rubbing surfaces are separated by a film of oil, the friction is almost independent of the nature of the surfaces.



As shown in the illustration, a 10 lb. block sliding on a non-lubricated surface, requiring 2 lbs. of force, has a .2 coefficient of friction. When the surface is lubricated, however, the force required is only 1 lb. and the coefficient of friction drops correspondingly to .1. As lubrication decreases, the coefficient of friction becomes more dependent upon the material of the surfaces.

For Brake and Clutch ... Use



Velvetouch is all metal a combination of powdered metals, compressed, sintered and welded to a solid steel backing plate.



OPERATORS..CUSTOMERS..

Everybody's Happy

... reports DAVID REIN, Manager, Shaker Square Shell, Cleveland



 "Since changing to ARO, have found this equipment very satisfactory. Customers react well and mention the modern equipment. It builds confidence," says Mr. Rein.

From the operator's viewpoint -ARO Lubricating Equipment has exclusive features that mean better performance! In the customer's eyes -ARO appearance is a sign of up-to-date service. For all-around satisfaction today and tomorrow -use ARO! Buy now! See your ARO jobber. The Aro Equipment Corporation, Bryan, Ohio.



SURVEYS BRING SUGGESTIONS

Continuous surveys keep ARO closely in touch with the needs and suggestions of the man on the job. Here Mr. W. A. Suitt of Kansas City is discussing lubricating questions with an ARO representative. He reports, "Have used ARO Equipment for four years... outstand-ing in merit and quality."





IS THIS ONE OF YOUR CUSTOMERS?

ORDER WEED CHAINS NOW

Every car that lands on the junk pile because of winter skid wrecks means one less customer for service and supply.

Protect your own business by urging your customers to protect the cars they may not be able to replace till long after "V" Day. Urge them to safeguard their cars against the hazards of winter driving by using Weed Chains.

It's important that you place your order promptly for the Weed Chains you'll need. The demand this winter will be greater than the supply because our Armed Forces require so many tire chains to keep equipment rolling safely on the road to Victory.

Some of your customers already have Weed Chains that can give good service—if they're repaired and reconditioned. Remind these customers to come in early and have chains restored to tiptop condition for the sudden emergencies of winter driving.

For selling new Weed Chains or servicing old ones, it's smart to act now if you want to do the largest possible volume of business.

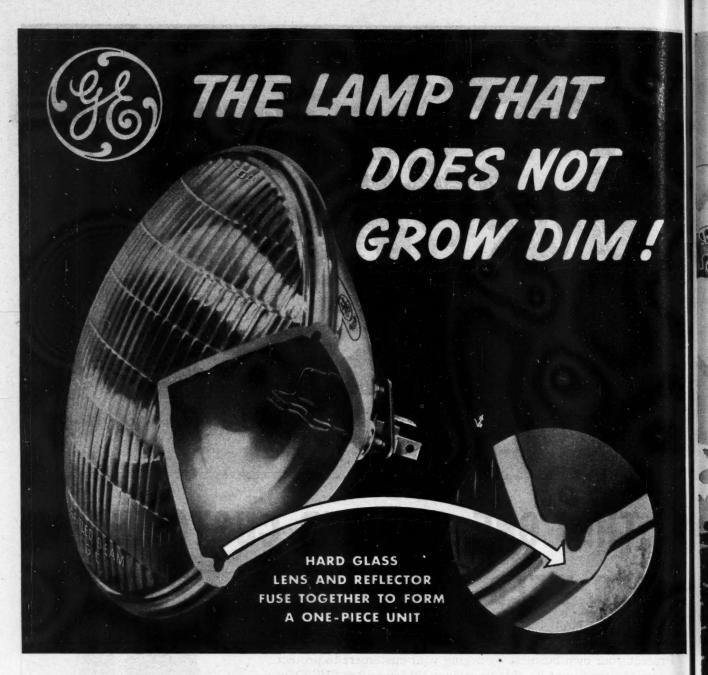


York, Pa., Boston, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, Portland, San Francisco

AMERICAN CHAIN & CABLE COMPANY, INC. BRIDGEPORT, CONNECTICUT

In Business for Your Safety





DIRT, dust and air never can penetrate the hermetically sealed G-E Mazda Sealed Beam lamp. The reflector can't tarnish. Even at the end of its life, the General Electric Sealed Beam headlamp delivers 99 per cent as much light as at the beginning. It does not grow dim.

Give your customers the benefit of this startling advance in automotive lighting ... rugged lamps that provide safer seeing on the road from start to finish of lamp life. Check your stocks of G-E Sealed Beam headlamps . . . the lamps that DO NOT GROW DIM.

G-E MAZDA SEALED BEAM LAMPS

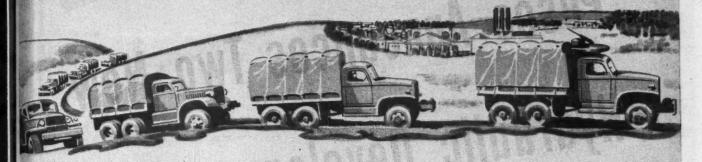
GENERAL & ELECTRIC

Hear the General Electric radio programs: "The G-E All-Girl Orchestra" Sunday, 10 p.m. EWT, NBC; "The World Today" news, every weekday, 6:45 p.m. EWT, CBS.



THE BEST INVESTMENT IN THE WORLD IS IN THIS COUNTRY'S FUTURE - BUY WAR BOND

Here's Tomorrow's Power Braking Today..



. with a Performance Record Billions of Miles Long!



HYDIOVAC Power Braking by

You don't have to wait until postwar for postwar power braking! It's bere in Hydrovac—a new kind of unit combining both bydraulic and vacuum power to give safer, surer toe-touch braking... far in advance of its field ... the most thoroughly proved new automotive product ever offered... and available now to qualified users for immediate installation! If you operate, manufacture, sell, of service trucks, get the facts about this battle-proved power braking. See your Bendix B-K dealer or write to Brake Headquarters.

BENDIX PRODUCTS DIVISION OF BENDIX AVIATION CORPORATION · SOUTH BEND 20, INDIANA

Benaix Available now!

"HYDROVAC" AND "BENDIX" ARE TRADE-MARKS OF BENDIX AVIATION CORPORATION

AGE

Pesco Announces Two New Hydraulic Developments..

FOR TRUCKS, BUSSES AND HEAVY-DUTY VEHICLES

PESCO now announces two outstandingly new automotive hydraulic products. Two new products that bring to the operation of all types of heavy-duty motor vehicles the simplicity, power and efficiency of applied hydraulics.

Mechanical devices used in the past to operate clutches and brakes can now be largely replaced with entirely new hydraulic controls that, (1) materially reduce mechanical working parts; (2) make action more positive; (3) reduce wear and maintenance on vital parts; and (4) ease operation and strain on both car and operator.

The performance of hydraulic power and control has been dramatically proved in many vital wartime uses in aircraft. Many of these developments have come from PESCO, specialists in the field of Pressurized Power. And now the engineering skill and precision manufacturing facilities of PESCO combine to bring to the automotive field some of the operating and performance advancements that hydraulics have contributed to aviation.

Both new PESCO developments have been thoroughly tested and proved in the laboratory, and on the road. They are ready for specification now. Read about them ... write for full details. PESCO Products Co., Automotive Division J, 11610 Euclid Ave., Cleveland 6, Ohio.

Copyright 1944, PESCO Products Co.

Division Borg-Warm



In Precision Hydraulics, Fuel Pumps, Air Pumps, Related Accessories . . .

PERFORMANCE POINTS TO

Pesco : RS

PESCO Univac

Here's an entirely new hydraulic brake intensifier of advanced design and unequaled performance. For trucks, busses and heavy-duty motor vehicles, the PESCO UNIVAC makes possible a braking system that's faster in action than any full air brake, or air or vacuum-operated hydraulic brake heretofore tested. In a complete, single-unit package is replaces a multiplicity of parts required in previous conventional brake systems, and offers these outstanding advantages . . .

- Substantially lightened foot pedal pressure. Brings commercial vehicle pedal pressures within the realm of passenger car pressures.
- Brake action response to pedal pressure instantaneous and consistent. Lag of other systems eliminated.
- A completely packaged and protected unit with important weight savings.
- Simplified service and maintenance. No enternal working parts. No mounting bracket reaction force.
- Easily installed anywhere on chassis . . . on existing equipment as well as new equipment . . . on tractor-trailer combinations as well as single trucks.



The PESCO HYDROLEASE revolutionizes elutch throw-out mechanisms. A hydraulic clutch actuator, it applies the smooth, positive force of hydraulics to clutch operation in a way that makes performance and maintenance an entirely new experience. On heavy-duty vehicles it provides remarkably new operating ease, prolonged clutch life and materially reduced service expense. Outstanding among its important advantages are ...

- New ease and smoothness in clutch operation. Clutch response is more accurate. Eliminates "creeper gear jerk".
- Lightened clutch pedal load, approximately 50 per cent less!
- Constantly adjusted clutch clearance between the clutch release bearing and the clutch throwout mechanism. Saves clutch plate linings.
- Reduced weight, reduced number of working parts, reduced maintenance cost.
- 5. On one typical bus installation the PESCO HYDROLEASE eliminates 42 working parts, 19 points of lubrication . . . and its cost, 60 per cent less!

R AGE



An Asset in the Past...

It offers more than ever for the Future!

You don't have to tell any automobile dealer how highly the Chrysler-Plymouth dealer franchise was rated in pre-war days! The type of men who sought and held those dealerships is evidence enough of that!

Now, nobody is going to try to claim that, since December 7th, 1941, any automobile dealership has been a bed of roses. But Chrysler-Plymouth dealers have been very fortunate during this period.

They've been fortunate in having been identified with cars enjoying such unusually high owner loyalty. This has automatically assured them a substantial volume of dependable business.

Good factory management has maintained a field

organization of highly trained men to counsel on all phases of the dealer business. This has kept dealers so well supplied with necessary parts that they have been able to repay their customers' confidence and loyalty with adequate maintenance service.

And they are also fortunate that the tremendous scope of Chrysler's war work has taught Chrysler many valuable things that will contribute directly to its building better cars tomorrow.

Doubly fortunate—may we say—is the man who gets one of the new postwar Chrysler-Plymouth dealer franchises. For he will be able to offer these even finer Chryslers and Plymouths to a market of loyal, satisfied owners, and to prospects at large.

CHRYSLER

DIVISION OF CHRYSLER CORPORATION



AGE



Roaring over the road on a crisp, Fall evening was packed full of danger for the early motorist. At daring speeds of 15 miles per hour, the best headlights made gave little warning of what was ahead.

Today, modern sealed-beam lighting is one of the outstanding contributions to a driver's comfort and safety. Now he can see farther and better, with headlights that no longer begin to depreciate right away, cutting down his length of vision.

Arrow Sealed-Beam Conversion Kits that fit into the headlamp housing of many cars, trucks, and buses, and Arrow complete Sealed-Beam Headlamps make sealed-beam lighting available to all pre-1940 vehicles. Ask your jobber about Arrow lighting products. Arrow Safety Device Company, Mount Holly, N. J.

FOR SAFETY

ARROW

AFTER DARK



















Best Tip for Post War!

Make Tire and Vehicle Conservation

EET DIXON who shows the way with sales of

Six years ago Dixon invested just \$1,500 in Bear Equipment!

Today, in San Bernardino, California, a small city of 45,000 population and no industries, his sales are now \$60,000 per year. Purchases of Bear Wheel Balancing Weights from his Bear Jobber alone average over \$200

Today, his all-Bear equipped shop contains 3 Frame Straighteners, 1 passenger car and 1 truck Front End Services, 2 passenger car and 1 truck Dy-Namic Wheel Balancers, 1 truck and 1 passenger Drive Over Alinement Gauges, 1 Welder, 1 Wheel and HubStraightener, 1 Housing Straightener . . . all paid for many times over out of profits!





Shop records of Wheel Balancing Department show average of 810 wheels balanced per month.



Dixon's Machine and Blacksmith Shop.



Heavy-Duty Bear Balancer is located in the Truck Service Department.



Dixon has the proper Bear Heavy-Duty equipment to handle the big jobs!

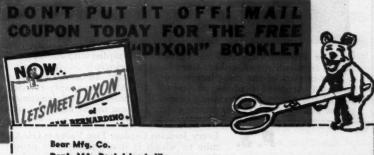
What Dixon is Doing YOU CAN DO!

War accentuated use of and appreciation for Bear Wheel Alinement, Wheel Balancing and Frame Straightening services spells an increasing boom in Bear Service . . a demand that means simply and definitely this.

You Haven't Seen Anything Yet!

The time to get started is NOW. Write or MAIL THE COUPON TODAY. Bear Mfg. Co., Dept. MA, Rock Island, Illinois.





Dept. MA, Rock Island, III.

Please send without cost or obligation a copy of the "DIXON" booklet giving details of Dixon's operations which bring him an annual \$60,000 sales volume. Also bulletin on Bear Equipment and name of my nearest Bear distributor.

NAME	
FIRM	
ADDRESS	
CITY	STATE

AGE

PICTURE STORY OF AMERICA'S ONLY MODERN TIRE VALVE

See for yourself why the Jenkins Capless Tire Valve Tire Valve saves tires and trouble for cartwoners - makes owners - makes money for YOU!

Now-where did that pesky Valve cap go? \$\frac{1}{10} \frac{1}{10}!!!



1. Until recent years, all tire valves were made with detachable caps. A cap was necessary to maintain correct inflation, otherwise dirt and moisture were apt to creep into the valve stem, loosen the core and let air escape.

Look > CNo cap:

2. It went on this way long after high pressure tires had become history. Then Jenkins came out with a modern valve that needed no removable cap...a valve designed to give a positive dirt-proof air seal automatically.



3. The Jenkins Capless Tire Valve has no removable core, either. Core is a built-in part of the one-piece valve structure. It gives a plug-type seal—one of the most efficient sealing principles known in valve engineering.



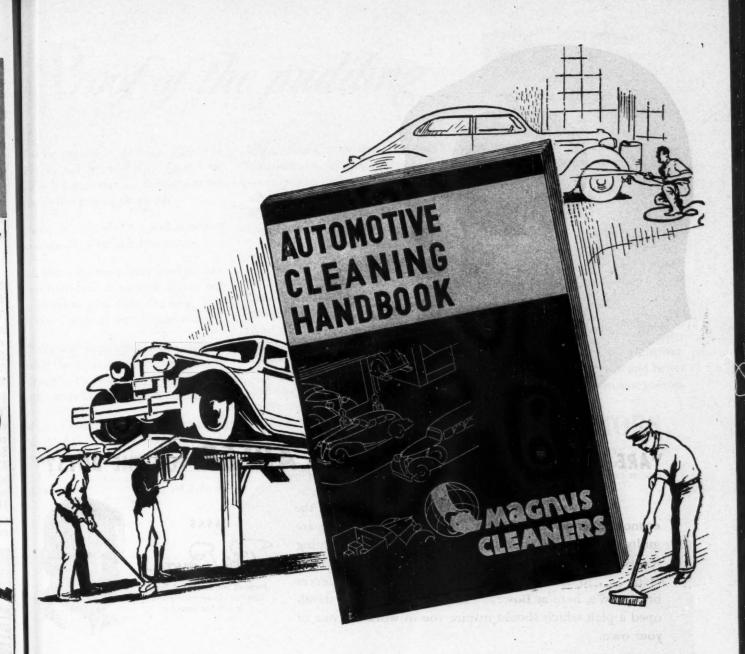
4. This advanced construction is coupled with another exclusive Jenkins principle . . . the truly flexible valve stem. In case of a sudden flat, the flexible stem simply receded through rim hole. No full length metal shank to jam in the hole and rip the tube.



5. Like all tire valves, however, the Jenkins valve takes any standard airchuck—slip on or screw on—any number of times, without injury to the tip. Proved by countless car owners using millions of tubes equipped with these tire-saving, nuisance-free valves!

P. S. Every Jenkins Capless Tire Valve is GUARANTEED Air-Tight for the life of the tube to which is it originally and properly attached. Men who make or sell tires know the sales-appeal of such a forthright guarantee. For complete data, write Jenkins Bros., Rubber, Division, 80 White Street, New York 13, N. Y.





A Word About Cleaning Machines

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ng

AGE

If you handle any considerable volume of engine blocks and parts which have to be cleaned in hot alkaline cleaning solutions by present methods, ask us to tell you all about the new Magnus Agitating, Multi-Purpose Cleaning Machine which can save you a great deal in time, labor and cost of cleaners.

The New 1944 Edition of This Famous Manual is Full of New Ideas

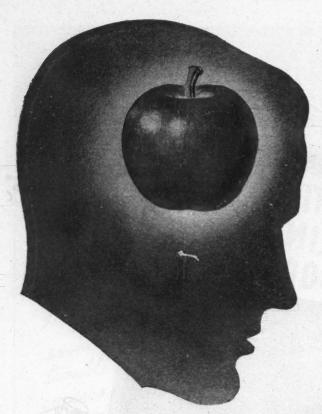
There are a great many cleaning jobs to be done in any service garage that can waste time and labor if not properly tackled. Therefore you cannot fail to get plenty of really helpful ideas by studying this Handbook because it gives the answers.

All the cleaning jobs you have to carry out, including motors and chassis, cooling systems, carburetors, water and fuel pumps, bodies, paint stripping, internal motor cleaning, cement floors, upholstery—are all there, together with the time-tested and experience-proven Magnus methods and materials that have led to material economies and improvements in cleaning wherever they have been used. WRITE FOR YOUR COPY NOW!



MAGNUS-CHEMICAL COMPANY 174 SOUTH AVENUE - GARWOOD, N. J.

AUTOMOTIVE CLEANERS



"ARE YOU PLANNING AN APPLE CAREER FOR THE BOYS?"

• If you're not planning in some way to avoid the economic let-down everyone forecasts, you certainly are guilty of neglecting your duty to the boys who are fighting for us. It's squarely up to all of us... not just the Government... to see that our Returned Veterans get decent breaks. We, here at Bowes "Seal Fast" Corp., have developed a plan which should inspire you to work out one of your own.

HOW THE BOWES PLAN WORKS

At our expense we will train a selected group of men in the business of selling and distributing our products. When he's completely trained, each man will be furnished the necessary working capital and suitable sales equipment to start his own business as our exclusive wholesale distributor in a territory of his own. Such a business yields big money to men big enough for a big job. This plan, we believe, expresses American Faith in the American Enterprise.

ASKS



President and Founder of Bowes
"Seal Fast" Corporation -- Pioneer
in Safe Tire Repairs



way

look

proc

and

IT'S THIS... OR ANOTHER WPA!

Nobody wants another WPA or a Bonus March, but unless you as an individual help by planning now to create genuine opportunities for returned service men, certainly we are heading for some sort of bureaucratic "boondoggling."

The size of your business, whatever it is, can be stretched to include opportunities for returned service men. Let's start now in the name of American Enterprise to help these men get on their own.



BOWES "SEAL FAST" CORPORATION, INDIANAPOLIS 7, INDIANA

Proof of the pudding

You've got the right idea, Son! The way to tell if anything's good is to my it. That's what we do—and here's how it has proved its worth.

Plenty of new devices and products book good — on the blueprints.

But our engineers have always been just hard-boiled enough about our products to give them the final, conclusive check of actual field trials.

That's why, long ago, General Motors built the first automotive Proving Ground as a real aid in making more and better things for more people.

lt's a 1245-acre outdoor laboratory laced with miles of all kinds of roads and crowded with driving hazards. Cobblestones, grades, curves, bumps – everything here to show up a weakness or to prove a strength. Millions of test miles were run every year to improve your car.

Then everything changed — literally with a bang! New war machines appeared, all in need of tests that might mean everything to our fighting men. And the Proving Ground was right there ready to try them out.

If you could visit the General Motors
Proving Ground today, you would see
tanks standing on their heads,
half-tracks slewed around at
impossible angles, strange



vehicles of war speeding waist-high through flying water. They are proving their good points, and showing up the bugs that might cause trouble to American fighters.

Here is a pressing wartime need met fully because of peacetime enterprise. It was possible because, in our country, men are justly rewarded for such enterprise.

This idea helped make America great, good to live in, good to bring up a family in. It proved its worth in war. And it will produce more and better things for more people as time goes on.

GENERAL MOTORS

Impossible angles, strange

"VICTORY IS OUR BUSINES."
CHEVROLET - PONTIAC - OLDSMOBILE - BUICK
CADILIAC - BODY BY FISHER - FRIGIDAINE

KEEP AMERICA STRONG

Buy More War Bonds

KEEP AMERICA STRONG

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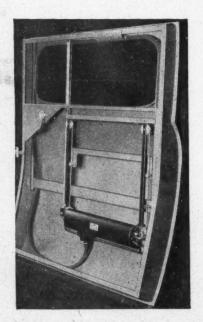


Push this Button and UP or DOWN goes your CAR WINDOW INSTANTLY

It's the Lift-O-Matic...a TRICO development for the car of tomorrow...perfected for postwar production.

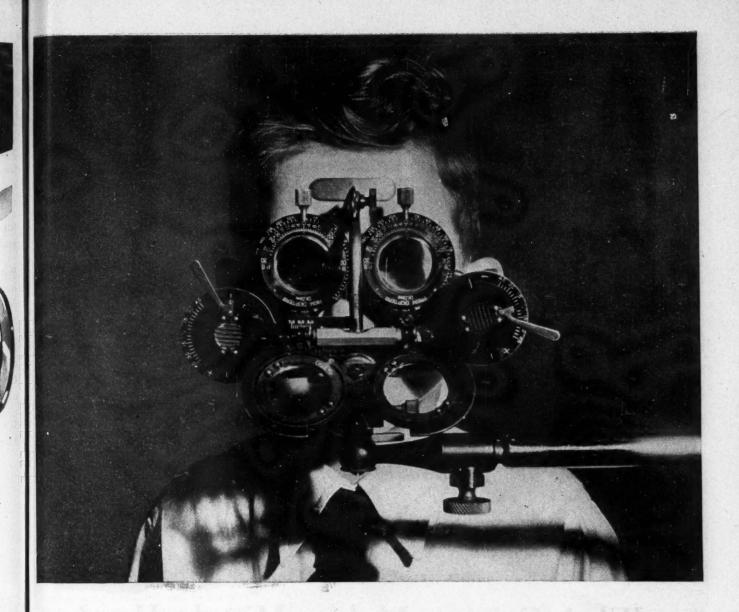
Push-button control for speedy lifting and lowering of car windows. Uses the by-product of the motor... vacuum. Simplicity and economy combined.

The Lift-O-Matic is new but pre-war proven through standard equipment use of nearly 10,000 installations on three car models.



TRICO PRODUCTS CORPORATION, Buffalo 3, New York

Manufacturers of automatic windshield wipers used as standard on millions of cars for 25 years



The gadget that overworked a mailbox

A few months ago, this Man-from-Mars-looking gadget, called a phorometer, appeared in LIFE.

It was part of an article on dyslexia, the medical term for reading difficulties, and showed how Chicago's Dyslexia Memorial Institute corrects this ailment in otherwise normal and intelligent children, by means of scientific tests and instruments.

In less than a week after the article appeared in LIFE, the Institute's phone and mailbox were overworked with inquiries about dyslexia and its cure. Within two months, letters had poured in from 42 states and three foreign countries.

Not only parents of children were interested but the Institute had several applications from teachers asking the privilege of coming to study there. Also a number of state and city departments of education expressed interest in the methods.

The size and promptness of this response, together with its widely scattered sources, illustrate pretty convincingly that, all over this country and many other parts of the world, a huge number of people not only see LIFE but read it carefully and are influenced to the point of action by what they read.

This is well known by most leading automobile makers. That's why they continue to remind the public on LIFE's pages, of the cars they hope soon to be making again.

For, week in and week out, LIFE has more readers than any other magazine!



GE



Who's Going to Make a Mistake Here?

Not the man who has the clear, concise instruction sheet. But don't put the blame on the other fellow, either... put it where it belongs—on the record form!

And furnishing legible records is the job Uarco continuous-strip forms do. With a Uarco Register, one person at one time writes enough copies for your every need...furnishes "originals" for all interested parties. These records put an end to excessive copying and re-copying...lessen the possibility of errors.

But that is only one of the jobs Uarco does for business record keeping. These continuous-strip forms speed the flow of work smoothly, efficiently...

end carbon fuss, stop-and-go actions, and other timewasting operations. Uarco records are made either for handwritten or machine-written use. They may be carbon interleaved or non-interleaved; may be used in a Uarco Autographic Register, typewriter, billing or tabulating machine.

No matter what type of record keeping problem you have, Uarco has or will devise a form to fit your individual need. It will cost you nothing to have a Uarco representative call today.

UNITED AUTOGRAPHIC REGISTER COMPANY Chicago, Cleveland, Oakland • Offices in All Principal Cities



at bi di

GRATEFUL CUSTOMERS HONOR DEALER FOR KEEPING CARS IN "A-1" SHAPE

Mr. Hi-Q Shares Acclaim at Testimonial Dinner

Dozens of happy, grateful motorists gathered today to pay tribute to Donald Dealer, local service station proprietor.

"At this time," said their Spokesman, "we want to express our appreciation to Don for keeping our automobiles 'on the road' in spite of wartime difficulties."

Donald Dealer, visibly pleased, responded by proposing a vote of thanks to his friend... and their friend... Mr. Hi-Q. "High-quality batteries," stated Don, "have played a big part in keeping your cars operating satisfactorily. And, as it was Mr. Hi-Q who 'sold' me on 'selling' you these top-of-the-line batteries, I believe we all owe Mr. Hi-Q a sincere vote of thanks."

Sales and profits up

"By pointing out the 'extra values' in my manufacturer's best batteries," continued Don, "I soon found that I not only was rendering a real service to my customers, but boosting my sales and profits, as well. I also found that these top-quality batteries were easy to sell—especially when they were equipped with Fiberglas* Retainer Mats."

Fiberglas mats, according to Don, help batteries last up to twice as long when properly serviced. They retard shedding, hold the power-producing material on the plates longer. "They're one swell feature," Don concluded.

With the big winter months just ahead, why not take a tip from Don and get in on this profitable, prestige-building business? Contact your distributor today, and get a stock of his

top-quality batteries . . . equipped with Fiberglas, of course.



Owens-Corning Fiberglas Corporation, 1971 Nicholas Building, Toledo 1, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ontario.



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2

AGE

YOU'LL GET BETTER PROFITS

WHEN YOU PUSH BETTER

FIBERGLAS-EQUIPPED

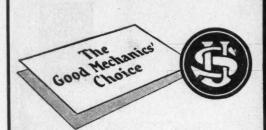


FIBERGLAS

BATTERY RETAINER MATS

Before After

W-DAY



UNITED STATES ELECTRICAL TOOLS HELP INCREASE PRODUCTION AND CUT COSTS...



MODEL HSHD7

PORTABLE ELECTRIC SANDERS

MODEL HSHD7

For production or maintenance. In metal finishing, removing scale and rust with wire brush, for smoothing welds and casting ridges with cup grinding wheel. Straight line ventilation to assure cool motor operation.

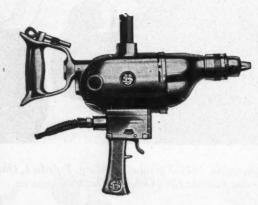


MODEL 12SP 1/2" Special MODEL 12HD 1/2" Heavy Duty

SPECIAL and HEAVY DUTY DRILLS

MODEL 12SP ½" Special MODEL 12HD ½" Heavy Duty

Ball bearings on armature. Chuck spindle mounted in two radial thrust ball bearings. Chrome nickel steel gears, heat treated, packed in grease and sealed.



MODEL 14RG 1/4" Regular MODEL 14HD 1/4" Heavy Duty

REGULAR and HEAVY DUTY DRILLS

MODEL 14RG
1/4" Regular

Ball bearing throughout. Quick make and break trigger switch.

MODEL 14HD

Ball bearing throughout. Double pole trigger switch, automatic release, thumb latch.

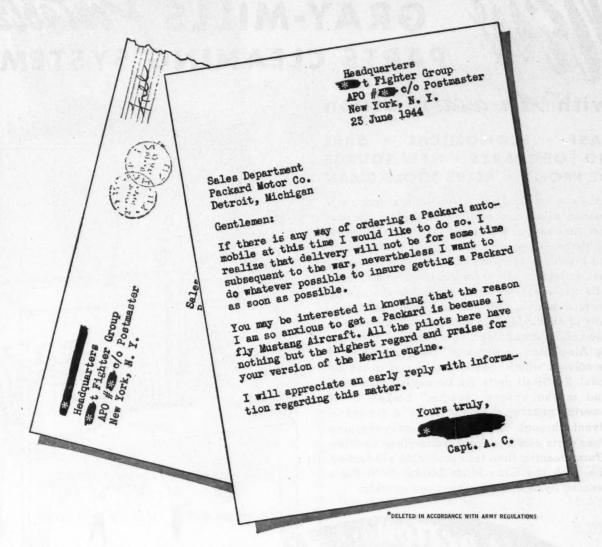
THIS IS BASIC . . .

it's the fundamental reason for using these practical, dependable electrical tools. They're precision designed, engineered and built—brought to their present state of perfection "the hard way"—not as the product of imagination, but of actual working experience on land, sea and in the air. Put United States Electrical Tools to work for you. They'll step up production, improve quality, cut costs.

 Write us^a for delivery dates. Some models available for early deliveries.

The UNITED STATES ELECTRICAL TOOL Co.

This Mustang Pilot is thinking ahead ...



.. ARE YOU?

If you ever hope to get set for the future, now is the time.

And now is the time to learn about the <u>new Packard</u> program — for Packard is going places.

- Packard's great war-production record has lifted public good will for Packard to an alltime high. The Mustang Pilot's letter above is just a typical example.
- 2. Packard "Clipper" quality has lifted owner enthusiasm higher than ever. Impartial owner

surveys show that Packard dealers will benefit from a tremendous "repeat" business.

- 3. Packard's post-war expansion program calls for 200,000 cars a year—double Packard's best peacetime year. More cars to sell, bigger profits for dealers.
- 4. Packard policies on discounts, prices and products—are liberal and progressive. They're worth looking into!

Write, or wire, the Packard Sales Department now. Address: 1580 East Grand Blvd., Detroit 32, Michigan. Your inquiry will be held confidential of course.

* ASK THE MAN WHO OWNS ONE

PACKARD

PRECISION-BUILT POWER















MGW GRAY-MILLS Portable PARTS CLEANING SYSTEM

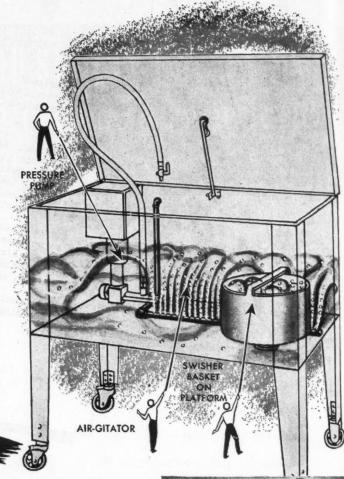
with "Air-gitator" action

FAST • ECONOMICAL • SAFE NO LOST PARTS • NEW SOURCE OF PROFIT • KEEPS TOOLS CLEAN

Here's a new portable, self-contained parts cleaner, using cold solvent, that offers the low-cost time-saving answer to your parts cleaning problems—eliminates the old inefficient bucket and brush cleaning and makes it unnecessary to heat up large systems for occasional jobs.

Its triple action features provide 3 ways for quick, thorough, efficient and safe cleaning of parts of all kinds, from small machined parts to automobile crankcases. 1—For soak-cleaning the Air-gitator provides a "boiling" action of the solvent which speeds grease and grime removal. 2—Small parts can be easily swished by hand in the unique "swisher" basket. 3—A powerful gear-type pump forces a stream of solvent through the hose for spray-cleaning larger parts and flushing hard-to-clean cavities.

Turn cleaning time into profitable production time with the Gray-Mills Model P-70 Parts Cleaning System. It pays for itself quickly.



TRUPLE ACTION..

2 Swisher Basket and Platform for cleaning of parts in bulk.

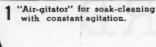


Specifications: 36" High, 21" wide, 36" long

3 Pressure Pump for spray cleaning larger parts.







Send for This Folder
It gives complete information

GRAY-MILLS CO.

1943 RIDGE AVENUE . EVANSTON, ILLINOIS

Parts Cleaning Systems • Portable Pumping Units • Fluid Refrigerating Systems • Fractional H. P. Pumps



Survey just completed shows they rate rural magazines like this:

Here's the question an independent research organization asked a coast-to-coast cross-section of rural auto dealers: "What rural magazine would be most effective, from an advertising standpoint, in helping you sell your prospects?" At right, the answer they gave.

Country Gentleman	280	50.1%
Farm Journal & F. W.	99	17.7%
Successful Farming	92	16.5%
Household	45	8.0%
Capper's Farmer	43	7.7%
	559	100.0%

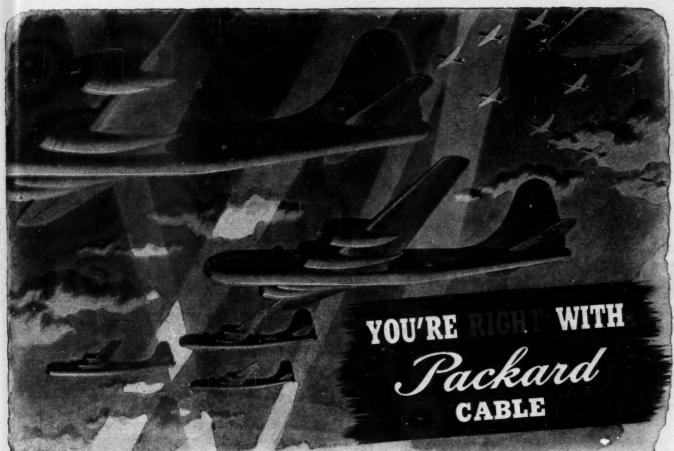
what's more, in 7 other surveys among rural druggists, lumber dealers, grocers, electrical dealers, hardware dealers, implement dealers, bankers—Country Gentleman was far and away 1st Choice in every field, by similarly large margins!

Country Gentleman

No. 1 with FARMERS . No. 1 with DEALERS . No. 1 with ADVERTISERS

AGE





In AMERICA'S mighty super-bombers, as well as in pursuit planes and bombers of all types, special Packard high-altitude aviation cable carries the current that sparks engine performance. The same Packard engineers who designed America's finest automotive ignition cable developed this tough high-tension cable to meet every requirement from sea level up to eight miles and above. More Packard cable is "in the air" today than any other make.

Packard cable is used in landing boats, sub-

chasers, Army "ducks," half-tracks, bomber and fighter planes—in gun-control apparatus, radio equipment and for many other war purposes. . . . Packard ignition cable, spark plug wires and battery cable are also serving in cars, trucks, buses, tractors and private and commercial airplanes, both as original equipment and for replacements. . . . Packard is the replacement choice of leading garages, car dealers and service fleets. . . . There's a reason for this wide acceptance—Packard cable is right for the job. Re-wire with Packard, and do it right.

Americans Never Quit— Buy More War Bonds

To Conserve Cable—Use It Right



PACKARD
CERTIFIED RE-WIRING
SERVICE

A vital service based on the proper service methods for using Packard cable. Ask your Packard jobber about it. PACKARD ILECTRIC DIVISION GENERAL MOTORS CORPORATION WARREN, ORIO

NOVEMBER, 1944

When writing to advertisers please mention Motor Age



PATENT NO. 1,990,657 - OTHER PATENTS PENDING - TRADE MARK REGISTERED

EXTRA VALUABLE FOR WINTER DRIVING

IMPOSSIBLE FOR EXCESS WATER TO CONDENSE IN CRANKCASE WITH CONSEQUENT DANGER OF FREEZING, BREAKS, AND OTHER RESULTANT RAVAGES OF COLD WEATHER — IF OILDEX OIL DILUTION EXTRACTOR IS ON THE JOB!

IMPORTANT

Hard boiled Truck and Fleet operators who refuse to rely on guarantees and believe only what their own tests PROVE to them, report as follows:

- Gas Savings up to 18% on pleasure cars and 12% on trucks
- Oil Saving up to 50% and elimination of need for oil changes up to 50,000 miles when OILDEX and FILTREX units are installed and and properly serviced
- Large reduction in motor mainte- ...
 nance costs

OTHER ADVANTAGES

- Removal of water, acid and unburned gasoline from the crankcase.
- Restriction of sludge formation and crankcase varnish.
- Rapid detection of leaky or porous blocks and blown gaskets.
- Protects driver, foodstuffs, etc., from crankcase fumes—particularly obnoxious in winter driving when windows are closed.



QUICKLY AND PROFITABLY INSTALLED ON ANY MOTOR. ALL MAKES OF CARS, TRUCKS, BUSSES, TRACTORS, MARINE AND STATIONARY GASOLINE ENGINES CAN BE EQUIPPED. Specify model and year of car when ordering on our money back guarantee.

OILDEX lists at \$15.00 • FILTREX \$10.00 • Complete with Fittings (Slightly Higher on West Coast)

- WAREHOUSE DISTRIBUTORS -

EASTERN SEABOARD: General Motive Parts Co., 61 Amsterdam Ave., N. Y. 23, N. Y.

OHIO: Service Products Co., 981 The Arcade, Cleveland 14, Ohio CANADA: Hickson Sales Co., 53 Fairview Blvd., Toronto OTHER TERRITORIES STILL OPEN—or in process of negotiation. If you are interested, please write or wire at once.

MOTOR ECONOMY PRODUCTS, INC.

407 WEST 36th STREET NEW YORK, 18, N.Y.

GET tomorrow's rapid battery charger! Wait for the sensational streamlined FOX RAPID BATTERY CHARGER!

Fox designers and engineers have developed a rapid battery charger that incorporates the best features of present devices—plus patentable improvements and innovations...that combines eye-appeal and electrical and mechanical perfection.

Be patient! It will pay you well—through increased profits and customer satisfaction!



ND cify

ings

GE

GREATER ANGULAR CAPACITY
with Less . . .
WEAR
TIRE SCUFFING
TRACTION LOSS

New Process MINDA CARA

...the constant velocity universal

with ONLY 4 SIMPLE PARTS

Developed in Europe more than 15 years ago, the TRACTA JOINT is a product of the logical simplicity and practicality of French automotive engineers. New Process engineers have redesigned it to American standards—adding the physical properties of American metallurgy, the production economies of American methods, the torque capacity demanded by American automotive engines and vehicles.

Armed with these qualities, it has been a wartime sensation . . . adding new maneuverability, smoothness, quietness, steering ease, life expectancy and traction to jeeps, combat wagons, trucks, etc.

Its toughness has been proved on every battlefield. Its simplicity has been praised in countless field repair stations and ordnance depots. And its ability to function even when misalignment occurs has caused widespread surprise.

Tracta Joints are especially suitable to frontwheel drives, multiple-drives, independently-sprung wheels, railroad inter-car drives, machine tools, conveyors, dynamometers, power take-offs, marine aircraft applications. Write for sizes, torque capacities, operating and test data.



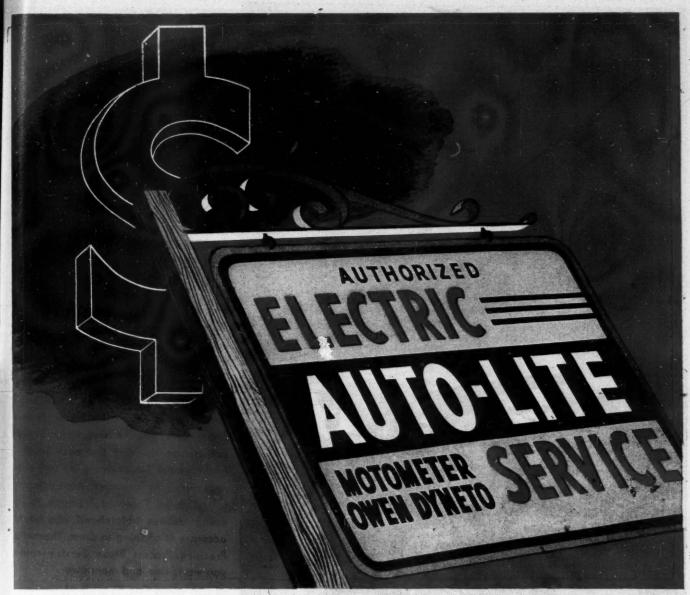
This Army Jeep shows the conditions encountered by Tracta-Joint-equipped vehicles in Amchitka during the campaign against the Jap-held Aleutian Islands.



ew Process GEAR CORPORATION

Precision Gears, Transmissions, Differentials and Axles Since 1888
AERONAUTICAL GEARS

SYRACUSE 4, N. Y.



Famous Signs that go together...

When this famous sign is displayed by members of Auto-Lite's world-wide service organization, a profitable business is the natural result. That's because more than 8,500,000 cars, trucks and tractors in operation today have Auto-Lite electrical units as standard equipment.

Many of these vehicles are operating in your neighborhood. Their owners look to you to keep them in tip-top condition. They look to you for honest service . . . for original factory parts when replacements are necessary.

Helping to keep America's cars on the road today is your big job. In doing it, you're building toward a sound, profitable ture.

THE ELECTRIC AUTO-LITE COMPANY

SARNIA, ONT. Parts and Service Division TOLEDO, 1, OHIO

TUNE IN "EVERYTHING FOR THE BOYS" STARRING DICK HAYMES — EVERY TUESDAY NIGHT — NBC NETWORK





VIEROLIERE.

NOVEMBER, 1944

When writing to advertisers please mention Motor Age

135



the first time!

High above and miles away from the target area the tow planes cut loose their glider train...silently the airborne troops glide to a landing...for the attack to be successful it must be Right the First Time!

In brakes, as in an air-borne attack, it pays to be right the first time.

Thermoid Precision Processed Brake Shoes give positive equalized brake action from the very first push on the brake pedal. No tinkering adjustments necessary. No customer call-backs to worry about. Thermoid Precision Processing assures beforehand absolutely accurate fit of lining to drum. Thermoid Precision Process Brake Service saves you work, time and manpower.

Thermoid Custom-Built Brake Lining Sets are precision products, too... each set is certified by Pittsburgh Testing Laboratory to be correct for the vehicles it fits.

Thermoid Precision Processing gives you something extra to sell... and something extra to profit by. It makes every reline job right the first time.



Don't Put It Off Til Tomorrow Buy More War Bonds Today!



HE return from war to peace production by Sprayit and Elsco will be News...Head-lines will be made when our post-war products are announced.

These new and improved products will be the finest ever offered...They will have new and more appealing appearance...They will have increased efficiency...They will be manufactured from the finest basic materials, by highly skilled hands, in a most modern, mass production plant...They will have value beyond anything yet available.

Sprayit will offer an outstanding new line of spraying equipment, air compressors, spray guns, insecticide sprayers, air tools, sanders, and allied finishing equipment.

Elsco will produce a fine line of electric motors, generators, hydraulic cylinders, valves, pumps and controls for aircraft, automotive and other industrial applications.

Civilian production wheels will be set in motion just as soon as present restrictions permit. Meantime, our organization, while working for war, prepares for peace.



Sets

set

ra-

fits.

YOU

ne-

ery

E

DO MORE WORK FASTER - FOR LESS!



Greater Power and Lower
Maintenance Cut Costs

Tremendous power combined with small size and light weight have long made air tools preferred on factory production lines. Simplicity of design and construction of air tools means very low maintenance cost in addition to efficient performance. Now, you can get for your shop these same advantages in the new, easy-to-handle Thor *Multi-Matic* air tools that run from a compressor as small as 1½ horsepower.

Designed particularly for automotive service, the complete *Multi-Matic* Kit consists of a small, powerful air motor with interchangeable attachments for drilling, grinding, sanding and polishing. For full details with prices, priority and delivery information, write for Thor catalog No. 80.

INDEPENDENT PNEUMATIC TOOL CO.
600 W. Jackson Blvd., Chicago 6, Illinois

Thors

Multi-Mutic

AIR TOOLS

7 COMPLETE TOOLS IN 1



Right-Angle ½" Drill & 3½" Hole Saw

6" Grinder and Wire Wheel Brush

2-in-1 Sander & Polisher

Each of these Thor Multi-Matic Air Tools is available as a unit. Parts to make up all tools are in the complete Kit.



Sold by Leading Jobbers Everywhere

PORTABLE



TOOLS Pneumatic IF YOU HAVEN'T AIR enough to run the Multi-Matic

tools, investigate the complete line of Thor Electric drills, grinders, sanders and polishers for all light and heavy duty automotive service. Truck Transportation is the Vital Link in Distribution

DEALERS WILL MAKE

Money

Reo is getting ready for the biggest business in its history. Plan now to make money with Reo by joining the many progressive automotive mer-chants who are taking on the Reo 7-point Franchise for these major reasons:

- 1. They want to be prepared to make the most of a great opportunity which will be presented by a long banked-up demand for motor trucks.
- 2. For 40 years Reo has meant tops in economy and dependability-and this is recognized everywhere.
- 3. It is well known that a Reo franchise has always been a friendly, human factory-dealer relationship -and it will stay that way!
- 4. Reo's outstanding war record in the service of the armed forces is common knowledge-and a guarantee that Reos of today and tomorrow will surpass even the finest Reos of the past.

Reo wants its distributors and dealers to make money-wants them to help shape the "ground rules" for a profitable franchise! Therefore, Reo is asking dealers seven basic questions that will mold Reo's postwar plans. The seven points that constitute a satisfactory and profitable dealer-factory relationship are covered in Reo's "Big 7" questionnaire. Write for this today.

> REO MOTORS, INC. LANSING 20, MICHIGAN



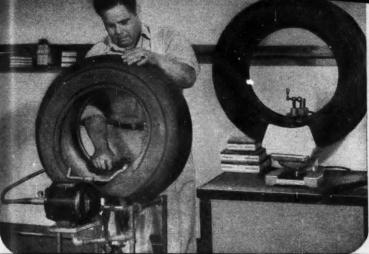
Branches in Principal Cities

1904 · AMERICA'S TOUGHEST TRUCK · 1944





"CASH REGISTER \$30000 AMONTH"



Says Charles A. Williams Inland Dealer in Kansas City!

"I have doubled my maintenance business since gas rationing started and credit my Inland Tire Repair Unit for an important part of it. I have taken care of my customers' tires with Inland Equipment for nearly a year to the cash register tune of more than \$300.00 a month. I've never had a serious kick about repairs made with it."

INLAND \$1,000 BONDED TIRE REPAIR DEALERS MAKE \$1500 IN 21/2 HOURS WORKING TIME

The Inland \$1,000 Bonded Dealer Plan puts you in the tire repair business for yourself.

It gives you the basic unit of all Inland Bonded Dealer success—the complete Inland Tire Repair Equipment and Inland Patches and Repair Materials. Inland Equipment enables you to give 24-Hour Service . . . and handles any size passenger car tire up to 7.50 x 16 . . . It includes the Inland Spreader-Inspector . . . Vulcanizing Press . . . Buffer . . . and all needed tools.

ALL THESE BIG ADVANTAGES, TOO!

In addition you get personal instruction in the tested Inland Vulcanizing Method that makes the repaired section the strongest part of the tire.

The Inland Bonded Dealer Plan backs your business with a \$1,000 Bond that tells tire owners, "Here is a man you can depend upon for trustworthy tire repairs." IT GUARANTEES YOUR REPAIRS FOR THE LIFE OF THE TIRE.

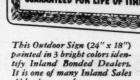
JOIN THE PROSPEROUS INLAND DEALER GROUP NOW!

The Inland Bonded Dealer Plan identifies your shop or station with Outdoor and Indoor signs that pull tire repair business your way. It supports you with an aggressive program of Advertising and a generous supply of Dealer Sales Aids!

20 MILLION PROSPECTS!

There's huge business awaiting shops properly equipped to service America's vital tire repairs. Right now—as you read these words—enterprising tire repair men are cashing in on the Inland \$1,000 Bond-

men are cashing in on Aids given you free. the Inland \$1,000 Bonded Dealer Plan. It offers you, too, an opportunity to make real money... right from the start! \$15.00 for 2½ hours of your working time is not exceptional. Scores report this much



... and more! You will do as well or better! GET IN ON THIS QUICK!

This is the time to find out about the Inland Bonded DealerPlan! It costs nothing to investigate! Fill in the coupon and mail it today. It will tell you all about the opportunity to join the fast growing Inland Dealer organization now!

Mail This Coupon Today—

INLAND	RUBB	ER	CO	RP	0	R	A	T	10	N	
First National B	ank Build	ing. De	ept. M	A-11.	C	nica	20	3	. 111		

Please send me complete information on how I can take advantage of the \$1,000 Inland Bonded Tire Repair Dealer Plan.

Name....

Address....

INLAND RUBBER CORPORATION

FIRST NATIONAL BANK BUILDING
DEPT. MA-11, CHICAGO 3, ILLINOIS

R AGE



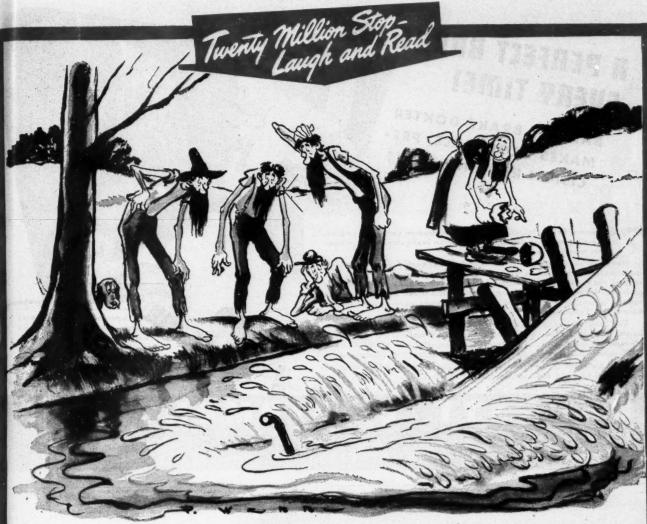
"SECONDS" COUNT AGAINST THE WAR EFFORT......
SO KREGER QUALITY IS MAINTAINED IN EVERY KREGER PART

Sconds," or substandard replacement parts, waste labor and precious war materials, disappoint their user, by early breakdowns—in comparison, check the high quality of Kreger shock absorber links made of 16-gauge steel; fuel pump diaphragms of grade "A" airplane linen; rocker arm pins and bushings that are hardened and ground; battery hold downs that exactly duplicate original parts, or any of the other 250 Kreger items. All Kreger products are honestly built to original specifications and they always will be. Good jobbers—interested in giving you the best quality parts—sell Kreger products.

KREGER

Genuine Quality

The L. F. Kreger Manufacturing Company, 544 W. 35th Street, Chicago 16, Illinois



"Rafe's sub shore went down mighty purty . . . wonder ef he's figgered how ter git her up."



NBC Nerwork

Featuring stars of stage, screen and radio
and men and women at the fighting fronts

Sub-performing cars may need PLIGG-CHES

When you bring a sub-performing car back to par with the help of "Plug-Chek" Inspection Service you enlist in the war on gas waste. And by helping get maximum mileage from gas coupons you are insuring friends and customers for the days ahead.

The "Plug-Chek" kit is free. Put it to work in your shop. Ask your jobber's salesman, or write direct to

THE ELECTRIC AUTO-LITE COMPANY
TOLEDO 1 Merchandising Division OHIO



AUTO-LITE

SPARK PLUGS

IGNITION ENGINEERED BY IGNITION ENGINEERS

R AGE

R PERFECT BRAKE JOB EVERY TIME! BARRETT BRAKE DOKTER MAKES PROFITABLE, PRECISION RELINING EASY!

HE Barrett Brake Dokter, in thousands of modern shops everywhere, is providing essential, dependable, precision brake service for millions of cars quickly, easily and profitably.

Requiring only average mechanics to turn out perfect work, simple to use, light in weight, the famous Brake Dokter centralizes and adjusts brakes right on the car or truck. Correcting misalignment and distortion, tailoring each shoe for exact and perfect drum contact, the Brake Dokter eliminates squeals, groans, side-pulls, hard pedal and insures against usual second adjustment "comebacks."

The Brake Dokter can build new, profitable service business for you now. Recommended and used by leading cat and truck makers, the largest fleet operators and the Army and Navy throughout the world. WPB Order L-270 permits a limited number of Brake Dokters to be shipped immediately.

Write today for complete information! Take advantage of this unusual opportunity to build new, money-making business.

Upper illustration shows B-115
Brake Dokter in use at progressive Andy Burger Motors, St. Louis.
Inset displays B-115 Brake Dokter
mounted and ready for use on Bendix
Brake Assembly.

BARRETT EQUIPMENT CO.

CASS AVENUE AT TWENTY-FIRST ST. . ST. LOUIS 6, MO.



The Best Old Car in the World?

Naturally, we wouldn't single out one hard-worked vehicle and label it the finest in the world. But we do contend, age and usage considered, America's cars, trucks and buses have more stuff left in 'em than those of any other nation. Sincere tribute to American manufacturing methods? Yes, definitely! And to our repairmen and equipment, as well . . . not the least of which is the Sight Feed Acetylene Generator, giving purer, hotter acetylene gas for welding at savings up to 75%. Write today for complete information about this famous acetylene source that is helping keep America's transportation system hale and hearty and on the roll.

THE Sight Feed GENERATOR COMPANY . SALES: RICHMOND, IND. . FACTORY: W. ALEXANDRIA, O.



st d ss n e s, d of r-pr y n-p

ACE

How are you at Chopping Trees?



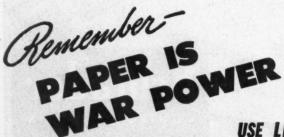
No, this is no joke. Many businessmen have volunteered to aid the paper shortage by spending vacations from their companies in the timber country, helping out on the man-power problem in the paper pulp industry.

Not that you have the time to do this. Nor that tree-chopping is exactly in your line. But, until the man-power shortage in this vital industry is over, until our armed forces no longer are spread all over the world where food, ammunition and medical supplies must be shipped them in paper protection

wrappers, there is a chopping job you must do. You must chop the use of paper in your business.

Sure, you've done plenty of this in the past months. But right now the need for paper is greater than ever. So the government asks you again to examine paper usage in your firm, see if you can't make even further savings.

And don't forget that baling wastepaper and sending it to a reprocessing plant is a most important part of the paper conservation job.





USE LESS PAPER - SAVE ALL WASTEPAPER

This advertisement contributed by this publication and prepared by the War Advertising Council in cooperation with the War Production

Board and the Office of War Information.

GATKE Custom-Bilt PRAYE PLOCKS & LINEDS

BRAKE BLOCKS & LINERS

for Cars, Trucks, Trailers, Buses, etc.

Ask your GATKE Jobber or write

GATKE CORPORATION 228 N. La Salle St., Chicago 1, III.

7751

MOTOR HEADQUARTERS

IN NEW YORK

1 block from Automobile Row, this modern 700 room hotel is a favorite stopping place for members of your industry.

> Single \$3.00 Double \$4.00

Hotel WELLINGTON

7th Avenue at 55th Street A Knott Hotel



POPULAR
INTRODUCTORY
SIZE
One A fabrite Cleans
Upholstery on 25 Cars
Uphols \$1.50 Delivered
Only \$1.50 Delivered

FABRITE CLEANER

New Income For You Increases Used

Car Values
Cleans Customers' Cars

LAKESIDE PRODUCTS







"KING" MT-695

☆ Because we operate under a WPB quota, which limits our production, it is impossible to supply the demand for "KING" Testing Equipment. A limited number of certain items are available. Because the demand is so great "KING" Jobbers are unable to make prompt delivery on most items. Jobbers buy from us, within our quota limitation, on WPB Form 547 or PDIA and Dealers buy from "KING" Jobbers without a priority rating. We regret that it is impossible to give the same prompt service that we have given for the past 30 years.

Ask Your Jobber or Write Us

The ELECTRIC HEAT CONTROL Co.
9123 INMAN AVENUE • CLEVELAND 5, OHIO
COOD "KING" PRODUCTS SINCE 1914



RESISTOFLEX

automotive gasoline and oil lines and fittings.

Standard equipment for six years on more and more vehicles, aircraft and vessels.

RESISTOFLEX CORPORATION
BELLEVILLE 9 • NEW JERSEY



Proved
IN AIRCRAFT
...Best

FOR YOU!

Powerful worm drive means greater hose-clamping force, tighter joints, no leakage under high pressures, no loosening from vibration. Long take-up means greater usefulness, easy re-tightening. High strength and durability. Army-Navy approval for severe aircraft service means greatest dependability for your requirements. Write for descriptive "Aero-Seal" Bulletin today!

AIRCRAFT STANDARD PARTS CO., 1709 19th AVE., ROCKFORD, ILL.

ion

AGE

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This Advertisers' Index is published as a convenience, and not as part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.

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EXCITING AS THE RACE IN "BEN HUR"!

THERE was an expectant hush. Then, out of the darkness of this June night in 1908, flashed a scene of breath-taking action.

A "spectacular" sign had been erected on the old Wonderland Building, to give Detroit its first glimpse of the Model "T" Ford.

"Watch the Fords go by!" the message read. And in the light and color of 2000 twinkling electric bulbs, a Ford touring car appeared to race along the Grosse Pointe shoreline. The wheels turned, scuffing up clouds of dust. The scenery shifted constantly. The veils of the women passengers streamed in the breeze. The

crowd in the square began to cheer. "It's as exciting as the race in 'Ben Hur'," said an onlooker. The newspapers thought so, too.

"Hour after hour," wrote one reporter, "the auto hurried, defied speed and natural laws alike, every instant seemingly on the verge of tipping into space down in the street below."

From that far-off day to this, people all over America have continued to "watch the Fords go by". They have watched the total mount to 1 million in 1915—to 15 million in 1927—and on up to 30 million.

They have seen these Ford cars and trucks shrink distances and help increase the productivity of the nation. They have seen them wipe out the traditional barriers between city and country, between mountain and plain, and help spread more uniformly the advantages of American culture and opportunity.

One day, there will be new Ford, Mercury and Lincoln cars. Like their predecessors, they will benefit by the energetic skills and resourceful engineering which are a Ford trade-mark. They will be exceptionally comfortable cars, reliable and economical... priced within reach of the greatest number. But beyond that, their styling will be so advanced that it will be a perfect match for their quality leadership.

FORD MOTOR COMPANY

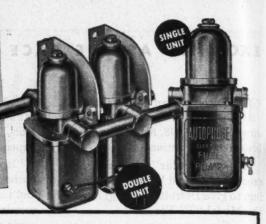




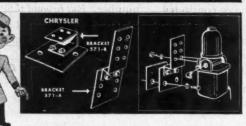
HOW TO AUTOPULSE

THE UNIVERSAL ELECTRIC FUEL PUMP

ON ALL VEHICLES



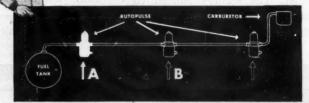
Passenger Cars and Light Trucks



Remove camshaft pump, replace with Autopulse. Use Bracket 571B with Chrysler built cars, 571A with all others. Electrical connection is from pump binding post to ignition terminal on back of ignition switch.

Commercial Cars—Or where there is Vapor Lock

Choose convenient location along frame below carburetor and away from exhaust heat. Install Autopulse for pusher action or pull-and-push action. While position A is preferable, all things being equal, positions B and C are satisfactory, and even to be preferred if pump is thereby better protected from wheel-splash.



"In Series" with Cam Pump

Install Autopulse <u>additionally</u> to camsheft pump. Electrical connection is from pump binding post to a special switch. When vapor lock develops, turn this switch "on" until Autopulse clears "lock." This use adds delivery capacity and gives double safety insurance. No cut-off valves necessary.



Reversing Flow Direction

Every Model No. 500 Autopulse can be made to pump in either direction—a great convenience when existing fuel lines are on "wrong" side.

You gain access to valves by disassembly of the filter assembly in the usual way:

1. Turn each valve upside down in its own compartment.

2. Reassemble in the only way possible. Reversal of usual flow is result.

3. Re-mark inlet and outlet.

You May Heed More Than One Unit

In normal service one Autopulse will serve a 100 h.p. engine. For 101 to 200 h.p. use duplex, over 200, the triplex. Where engines are chronically overloaded, reduce the 100-h.p. factor to 90 h.p. Do not under-equip: a duplex will last twice as long as a single pump delivering any given quantity of gasoline. Multiple manifolds may be rearranged for nearly any installation or flow direction.

Multiple Fuel Tanks

Mount Autopulse on carburetor side of selector valve "in series" with camshaft pump. Or, cam pump may be removed entirely. All parts of fuel line should be below carburetor and away from exhaust line heat.



AUTOPULSE

2821 BROOKLYN AVE.

DETROIT 1, MICH.

YOU CAN GET THE AUTOPULSE PUMPS
YOU NEED RIGHT NOW. CONTACT
YOUR JOBBER OR WRITE TO THE
AUTOPULSE CORPORATION



SEE ADDED LIFE IN PISTON RINGS

★ Now you can SEE why Burd "Graf-Flox" Piston Rings give many extra miles of life... why Burd equipped cars and trucks need no run-in (can be driven right from the shop under full load and speed). You can SEE that Burd electric furnace iron is scientifically controlled to have uniformly distributed natural graphite. You can SEE how an exclusive Burd process completely removes all

abrasive metal particles which adhere to ring surfaces after grinding ... that another special method applies deeply penetrating colloidal graphite. In other words, you can actually SEE why Burd "Graf-Flox" Piston Rings seat faster ... are non-abrasive and do not scuff ... how they are made self-lubricating to prevent scoring, seizing and sticking in grooves ... why they add many extra miles to motors.

THESE 3 TYPES CORRECT VARYING DEGREES OF CYLINDER WEAR



"Super Hi-Speed" Type Meets extreme conditions of cylinder distortion and

AGE



BURD
"Hi-Speed" Type
For cylinders with taper of
.003" to .007"



BURD
"Quik-Seal" Type
Recommended for Cylinders under .003" out of

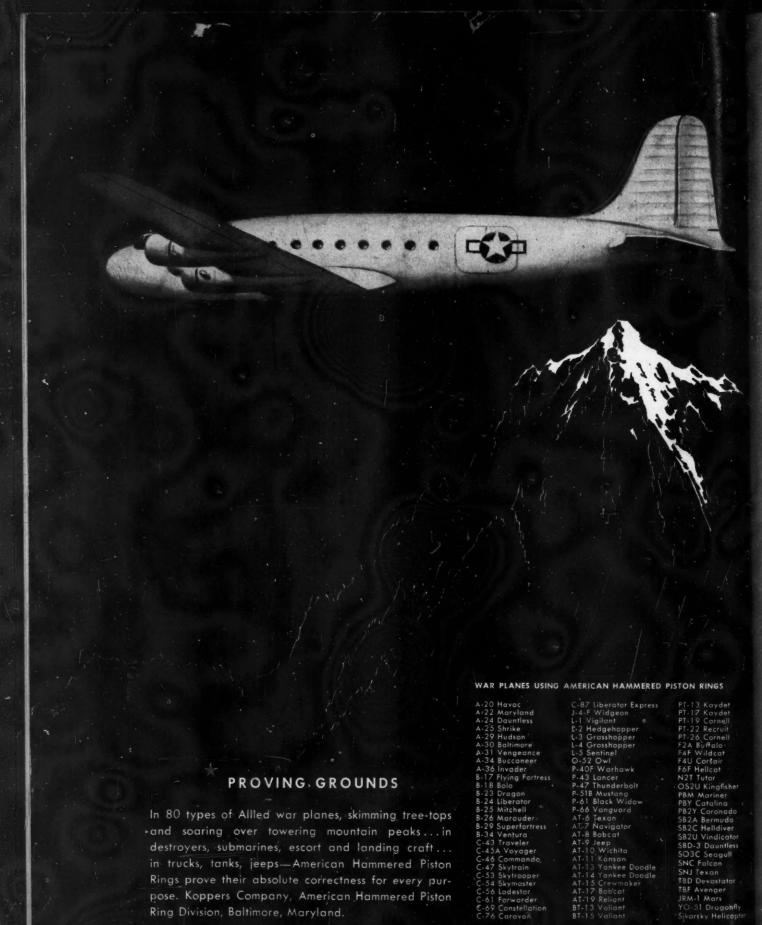
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BRINGS THESE ADVANTAGES
TO BURD PISTON RINGS

- * Quick Seating . . . No Run-in Needed
- * Non-Abrasive ... No Danger of Scuffing
- * Self-Lubricating... No Scoring, Seizing
- * Prevents Rings Sticking in Grooves
- * Adds Life to Rings and Motors.

BURD PISTON RING CO., ROCKFORD, ILL.

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